CFS-FM7

SERVICE MANUAL

US Model
AEP Model
UK Model

SPECIFICATIONS

Radio section

Frequency range	FM 87.5–108 MHz AM 530–1,605 kHz (566–187 m)
Antennas	FM: Telescopic antenna AM: Built-in ferrite bar antenna

Tape recorder section and general

Recording system	4-track 2-channel stereo or monaural
Fast winding time	Approx. 1 min. 30 sec. with Sony cassette C-60
Frequency response	TYPE I (normal) cassette 50–10,000 Hz TYPE II (CrO_2) cassette 50–12,000 Hz
Speakers	Two approx. 10 cm (4 inches) dia.
Power output	US model: 1 W x 2 (at 10 % harmonic distortion) in dc operation AEP, UK model: 2 W x 2 (at 10 % harmonic distortion) at dc operation
Inputs	External microphone input jack (stereo minijack) sensitivity 0.87 mV (–59 dB) for low impedance microphone Mixing microphone input jack (minijack) sensitivity 1.9 mV (–52 dB) for low impedance microphone
Output	Headphone jack (stereo minijack) for 8–32-ohm impedance headphones
Power requirements	9 V dc, six batteries size C (IEC designation R14) DC IN 9V jack accepts: AC-190 ac power adaptor supplied with US model, for use on 120 V ac, 60 Hz AC-230A ac power adaptor supplied with UK model, for use on 240 V ac, 50 Hz AC-230A ac power adaptor supplied with AEP model, for use on 220 V ac, 50 Hz DCC-120 car battery cord (optional) for use on 12 V car battery DCC-240 car battery cord (optional) for use on 24 V car battery

– Continued on page 2 –

Tape Transport Mechanism Type	MF-FM7-75

0dB = 0.775V	(AF)
0dB = 1μV	(RF)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

FM-AM STEREO CASSETTE-CORDER

SONY®

TC

Battery life	When recording FM programs: Approx. 4 hours using Eveready No. 1235 Heavy Duty batteries (Sony SUM-2 (NS) New Super Batteries) Approx. 8 hours using Eveready No. E93 Alkaline batteries (Sony Eveready AM2 Alkaline batteries)
Dimensions	Approx. 453 × 132 × 89 mm (w/h/d) ($17^{7}/_{8} \times 5^{1}/_{4} \times 3^{5}/_{8}$ inches) incl. projecting parts and controls not incl. handle Approx. 440 × 119 × 73 mm (w/h/d) ($17^{3}/_{8} \times 4^{3}/_{4} \times 2^{7}/_{8}$ inches) not incl. projecting parts and controls
Weight	Approx. 2.2 kg (4 lb 13.6 oz) incl. batteries not incl. FM stereo receiver

FM stereo receiver

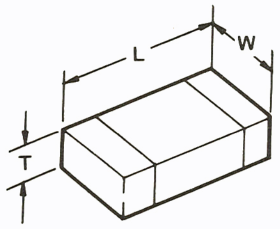
Frequency range	87.5–108 MHz
Antenna	Stereo earphone cord antenna
Output	Stereo earphone jack (stereo minijack)
Power output	20 mW × 2 (at 10% harmonic distortion) using 18-ohm headphones
Battery life	Approx. 5 hours with Sony UM-4(U) Ultra Super batteries Approx. 10 hours with Eveready No. E92 Alkaline batteries (Sony Eveready AM-4 Alkaline batteries)
Power requirements	3 V dc, 2 batteries size AAA (IEC designation R03)
Dimensions	Approx. 37.5 × 100 × 12 mm (w/h/d) ($1^{1}/_{2} \times 4 \times {}^{1}/_{2}$ inches) not incl. projecting parts and controls Approx. 39 × 100.5 × 12 mm (w/h/d) ($1^{9}/_{16} \times 4 \times {}^{1}/_{2}$ inches) incl. projecting parts and controls
Weight	Approx. 56 g (2 oz) incl. batteries

FEATURES

- A stereo cassette-corder combined with a high-quality FM/AM radio.
- Detachable FM stereo receiver to enjoy listening to FM programs using stereo earphones, anywhere, anytime.
- Automatic Music Sensor (AMS) system, for automatic playback from the beginning of the selection being played or the next selection on the tape.
- Record muting operation for creating blank intervals on the tape during recording, eliminating unwanted material.
- With the Sony variable level recording monitor system, a program to be recorded may be listened to at any desired sound volume and tone control settings without affecting the recording.
- Tape selector for high-quality sound reproduction using TYPE I (normal) and TYPE II (CrO_2) tapes.
- All-mode shut-off mechanism activates at the end of the tape in any operating mode.
- Mixing microphone jack for mixing the sound from an external microphone with other sound sources.
- Stereo minijacks for connecting headphones and an external microphone.
- Three different power sources—batteries, house current, and car battery.

Chip components

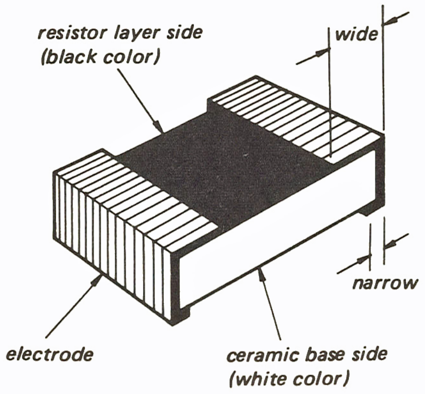
Chip components include resistors, capacitors, transistors, diodes, coil and adjustable resistors.
In this section, the types of resistors, ceramic capacitors, transistors and diodes which are used most frequently will be described.
Dimension of transistors and capacitors



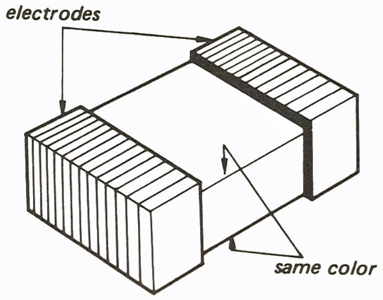
(Unit: mm)

Type	L	W	T
3216	3.2	1.6	0.45 ~ 0.6
2125	2.0	1.25	0.35 ~ 0.5

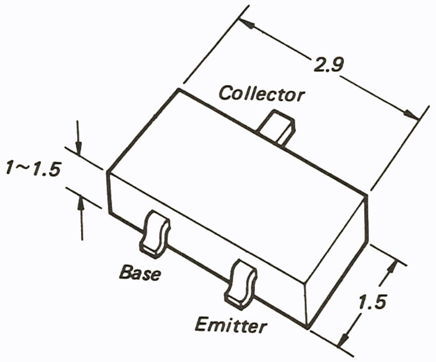
Identification


resistor layer side
(black color)
wide
narrow
electrode
ceramic base side
(white color)

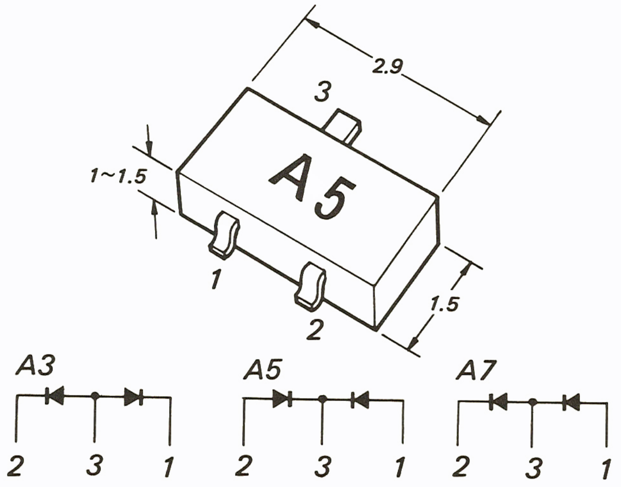
Resistor


electrodes
same color

Laminated Ceramic Capacitor


2.9
Collector
1~1.5
Base
Emitter
1.5

Transistor


2.9
3
A5
1~1.5
1
2
1.5
A3
A5
A7
2
3
1
2
3
1
2
3
1

Diode

Replacing chip components

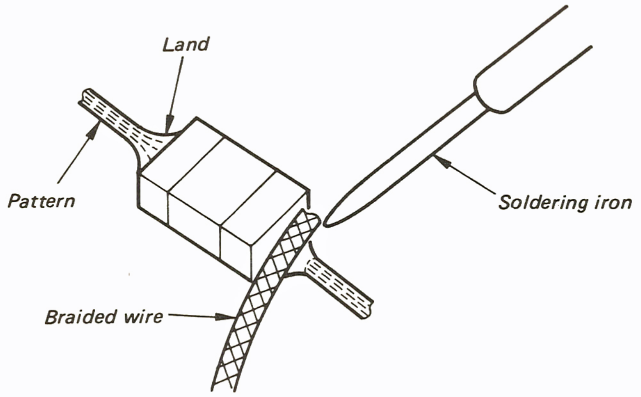
All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

Precautions for replacement

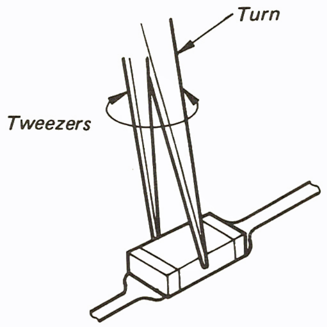
1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ Removing chip components

(1) Removing solder at electrode
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.


Land
Pattern
Soldering iron
Braided wire

(2) Disconnecting chip components
Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.
Never re-use a disconnected chip component.

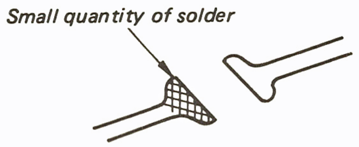

Turn
Tweezers

(3) Smoothing the soldered surface
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

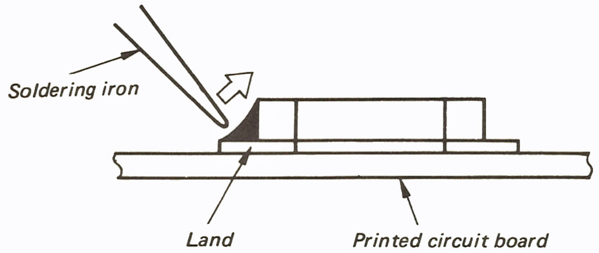
○ Connecting chip components

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

(1) Applying solder to land on one side
Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.


Small quantity of solder

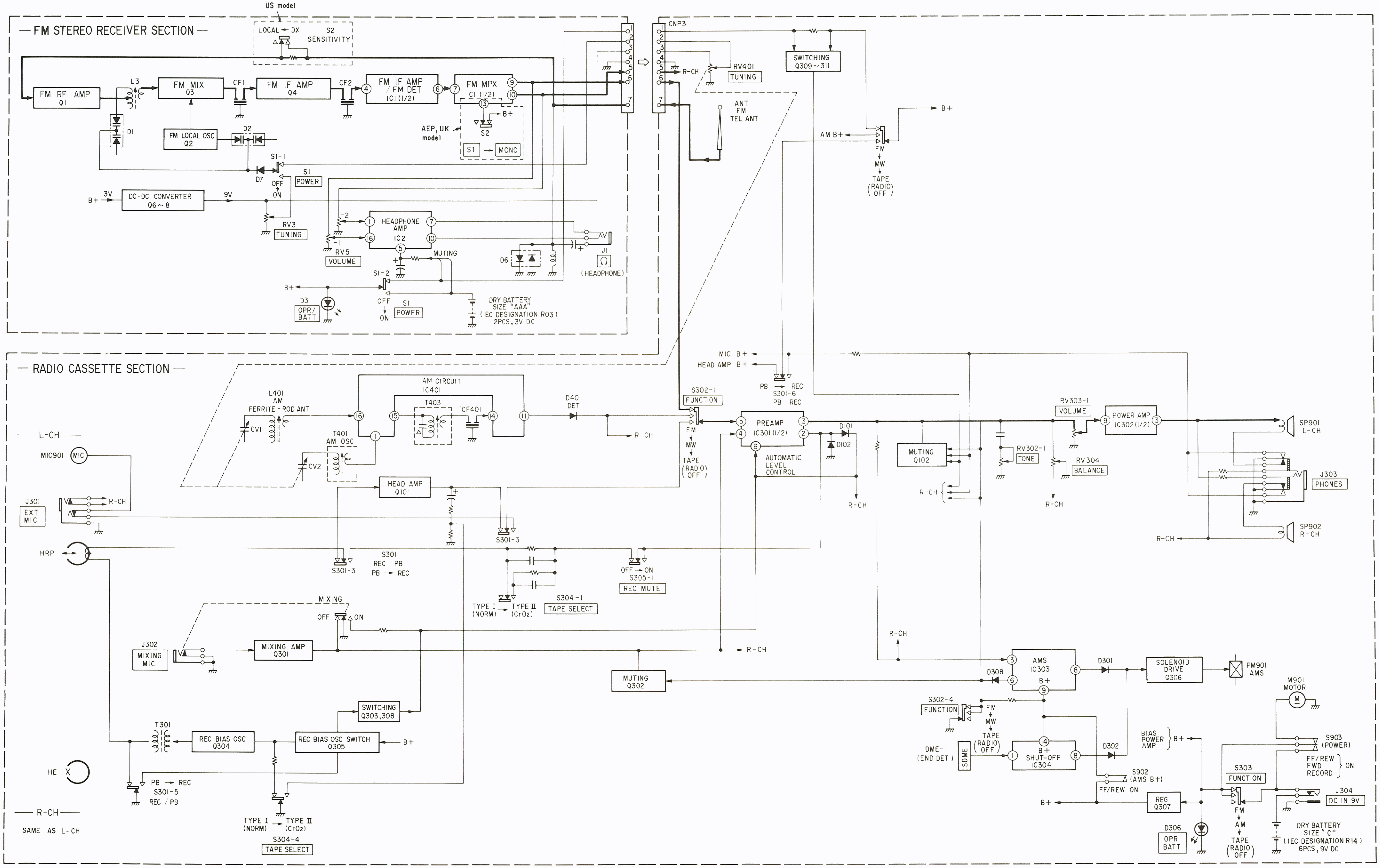
(2) Speedy soldering
Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.


Soldering iron
Land
Printed circuit board

(3) Speedy soldering of electrode on the other side
Solder the electrode on the other side in the same way as in (2) above.

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM

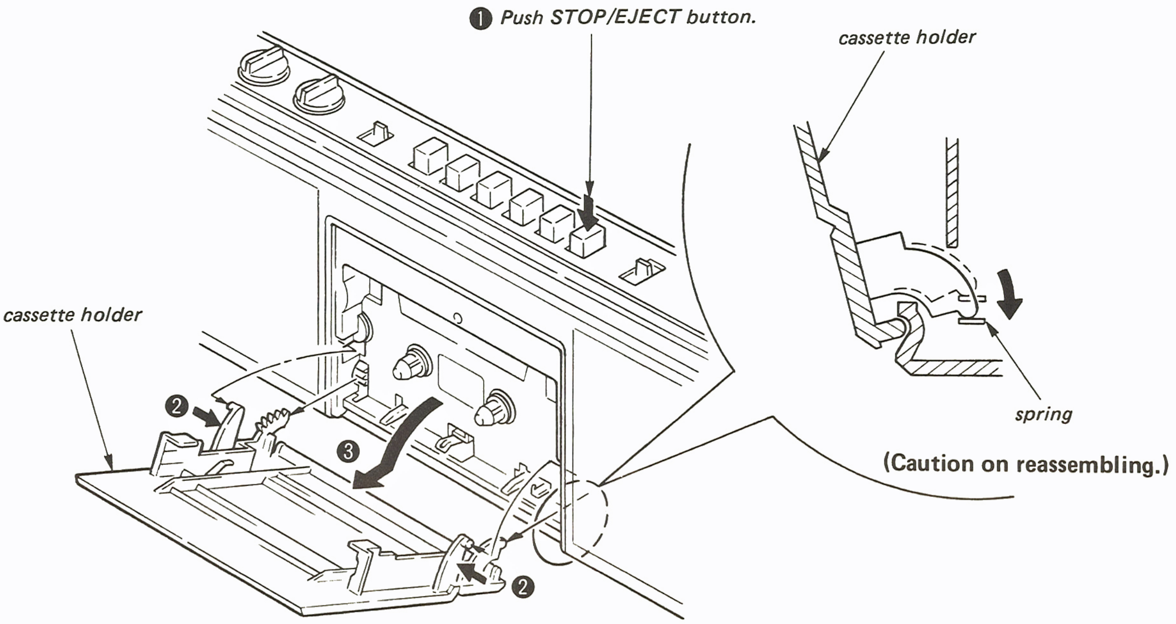

FM STEREO RECEIVER SECTION
US model
LOCAL ◄ DX
S2 SENSITIVITY
FM RF AMP Q1
L3
FM MIX Q3
CF1
FM IF AMP Q4
CF2
FM IF AMP / FM DET IC1 (1/2)
FM MPX IC1 (1/2)
D1
FM LOCAL OSC Q2
D2
AEP, UK model
S2
ST ➝ MONO
S1-1
D7
S1 POWER
OFF ON
B+ 3V
DC-DC CONVERTER Q6~8
9V
RV3 TUNING
HEADPHONE AMP IC2
RV5 VOLUME
MUTING
D6
J1 (HEADPHONE)
S1-2
B+
D3 OPR/BATT
OFF ON S1 POWER
DRY BATTERY SIZE "AAA" (IEC DESIGNATION R03) 2PCS, 3V DC
CNP3
R-CH
RV401 TUNING
ANT FM TEL ANT
SWITCHING Q309~311
B+
AM B+
FM MW TAPE (RADIO OFF)
RADIO CASSETTE SECTION
AM CIRCUIT IC401
L401 AM FERRITE-ROD ANT
T403
CF401
CV1
T401 AM OSC
CV2
D401 DET
R-CH
L-CH
MIC901 MIC
J301 EXT MIC
R-CH
HEAD AMP Q101
MIC B+
HEAD AMP B+
PB ➝ REC S301-6 PB REC
S302-1 FUNCTION
FM MW TAPE (RADIO OFF)
PREAMP IC301 (1/2)
D101
D102
AUTOMATIC LEVEL CONTROL
R-CH
MUTING Q102
RV302-1 TONE
RV304 BALANCE
R-CH
RV303-1 VOLUME
POWER AMP IC302 (1/2)
SP901 L-CH
J303 PHONES
SP902 R-CH
R-CH
HRP
S301-3
S301 REC PB PB ➝ REC
S301-3
OFF ➝ ON S305-1 REC MUTE
TYPE I (NORM) ➝ TYPE II (CrO2)
S304-1 TAPE SELECT
MIXING OFF ON
J302 MIXING MIC
MIXING AMP Q301
R-CH
MUTING Q302
R-CH
AMS IC303
D308
D301
SOLENOID DRIVE Q306
PM901 AMS
M901 MOTOR
SWITCHING Q303, 308
T301
REC BIAS OSC Q304
REC BIAS OSC SWITCH Q305
B+
S302-4 FUNCTION
FM MW TAPE (RADIO OFF)
DME-1 (END DET)
SDME
B+ SHUT-OFF IC304
D302
S902 (AMS B+)
FF/REW ON
BIAS POWER AMP B+
S903 (POWER)
FF/REW FWD RECORD ON
S303 FUNCTION
J304 DC IN 9V
B+
REG Q307
D306 OPR BATT
FM AM TAPE (RADIO OFF)
DRY BATTERY SIZE "C" (IEC DESIGNATION R14) 6PCS, 9V DC
HE
PB ➝ REC S301-5 REC / PB
R-CH
SAME AS L-CH
TYPE I (NORM) ➝ TYPE II (CrO2)
S304-4 TAPE SELECT

SECTION 2
DISASSEMBLY

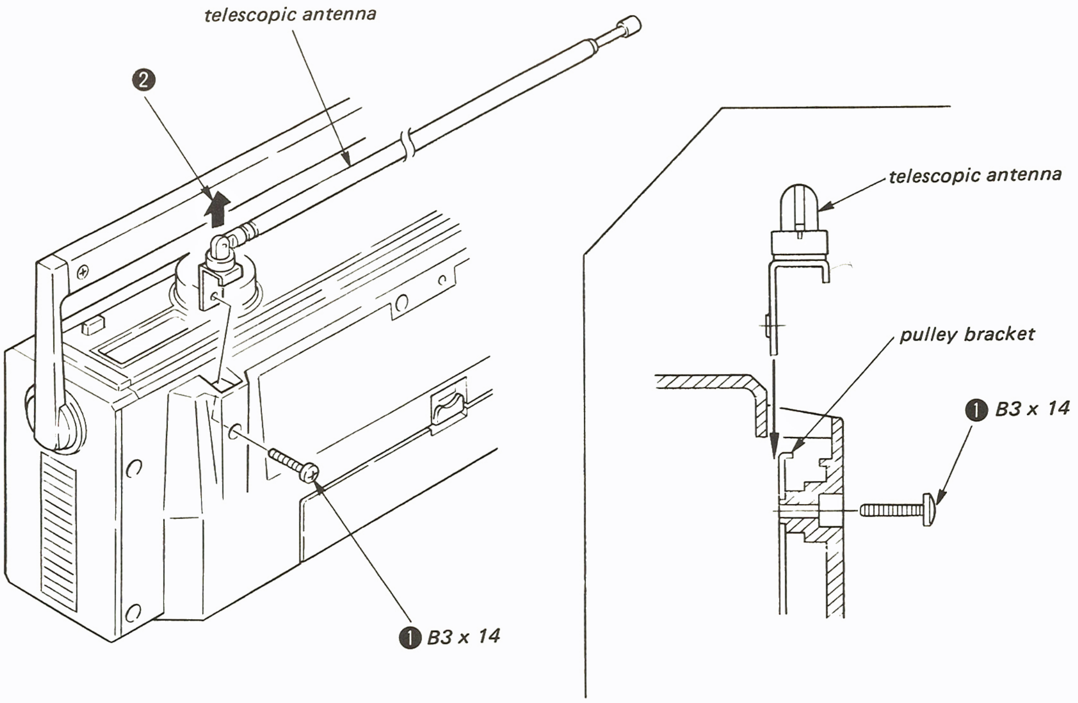
2-1. RADIO CASSETTE SECTION

Note: Follow the disassembly procedure in the numerical order given.

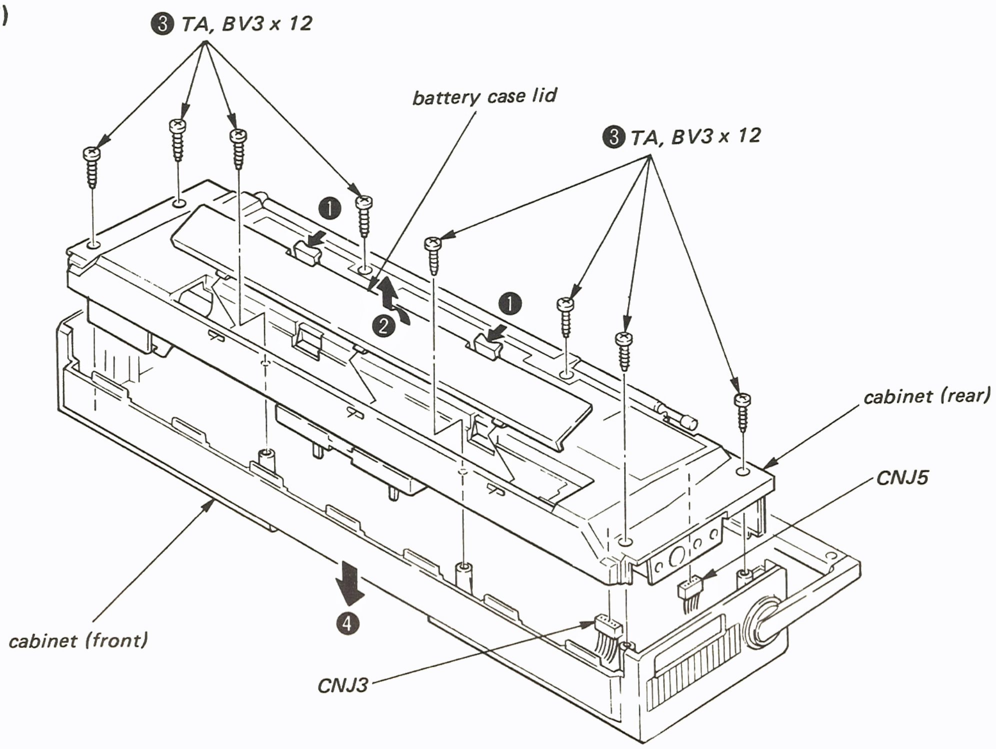
CASSETTE HOLDER


❶ Push STOP/EJECT button.
cassette holder
cassette holder
❷
❸
❷
spring
(Caution on reassembling.)

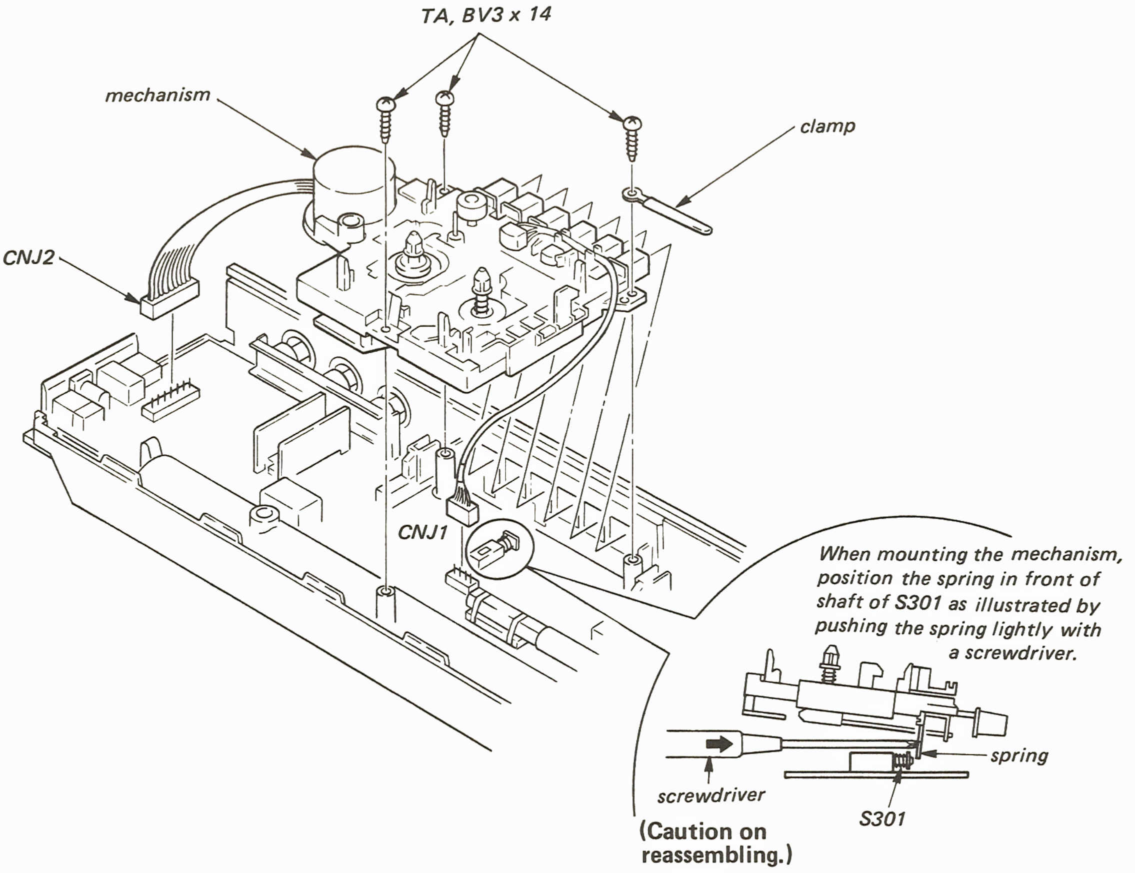
TELESCOPIC ANTENNA


telescopic antenna
❷
❶ B3 x 14
telescopic antenna
pulley bracket
❶ B3 x 14

CABINET (FRONT)


❸ TA, BV3 x 12
battery case lid
❸ TA, BV3 x 12
❶
❷
❶
cabinet (rear)
CNJ5
cabinet (front)
❹
CNJ3

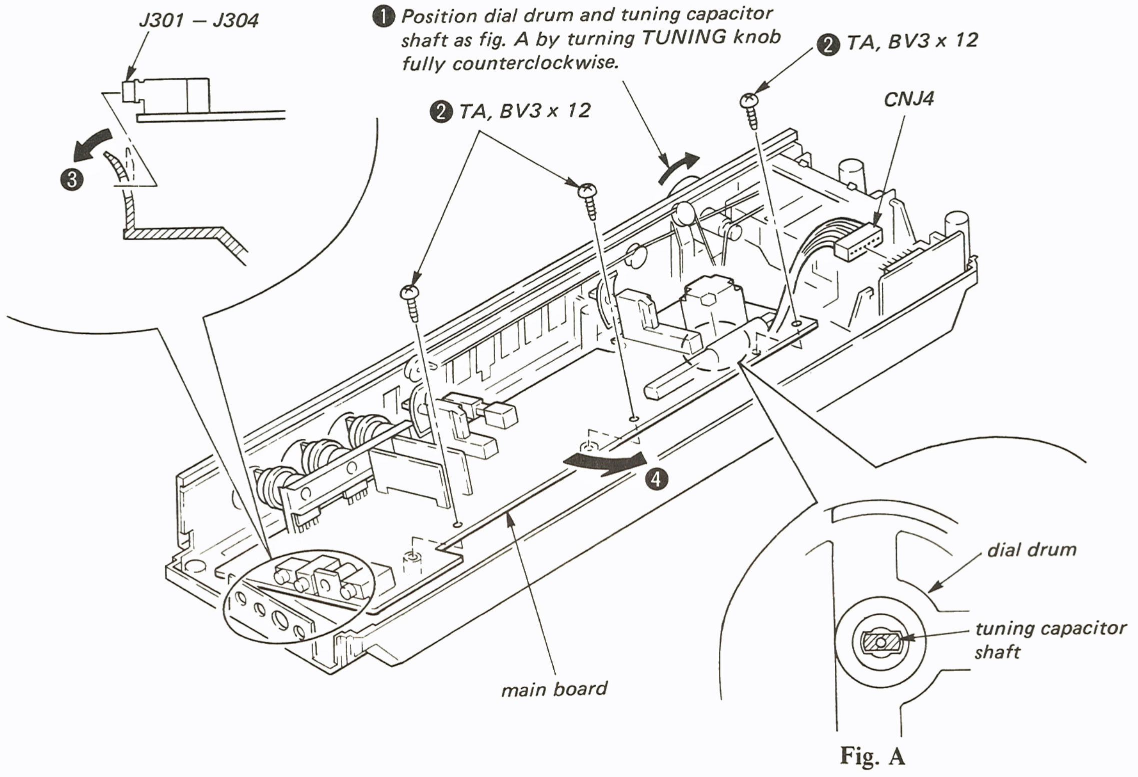
MECHANISM


TA, BV3 x 14
mechanism
clamp
CNJ2
CNJ1
spring
screwdriver
S301

When mounting the mechanism, position the spring in front of shaft of S301 as illustrated by pushing the spring lightly with a screwdriver.

(Caution on reassembling.)

MAIN BOARD



J301 – J304
❸
❷ TA, BV3 x 12
❷ TA, BV3 x 12
CNJ4
❹
main board
dial drum
tuning capacitor shaft

❶ *Position dial drum and tuning capacitor shaft as fig. A by turning TUNING knob fully counterclockwise.*

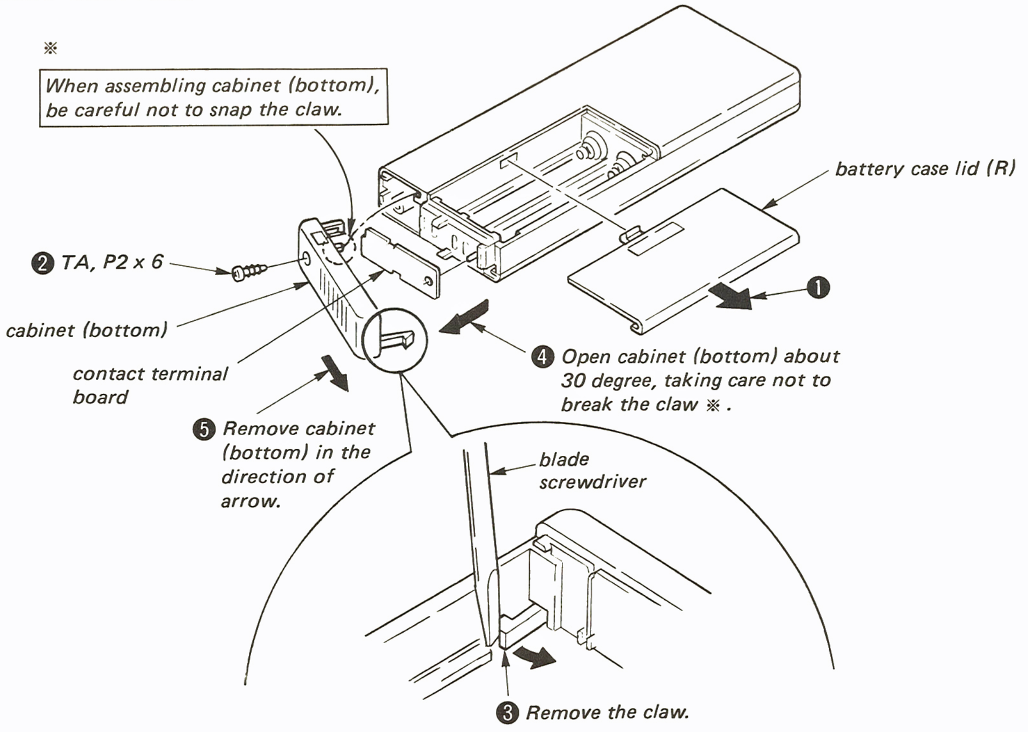
Fig. A

2-2. FM STEREO RECEIVER SECTION

CABINET (BOTTOM)

※

When assembling cabinet (bottom), be careful not to snap the claw.



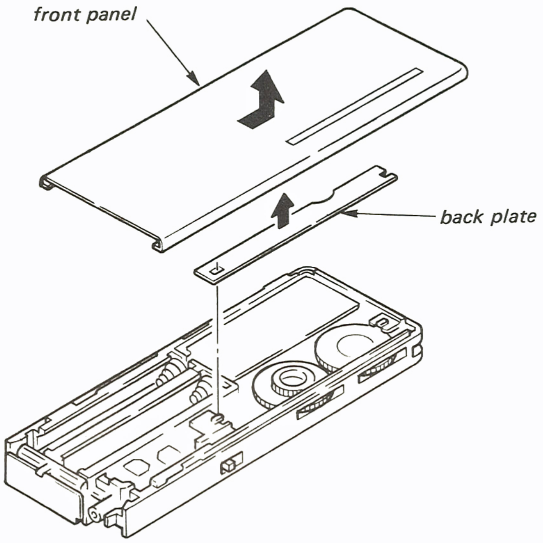
❷ TA, P2 x 6
cabinet (bottom)
contact terminal board
battery case lid (R)
❶
blade screwdriver

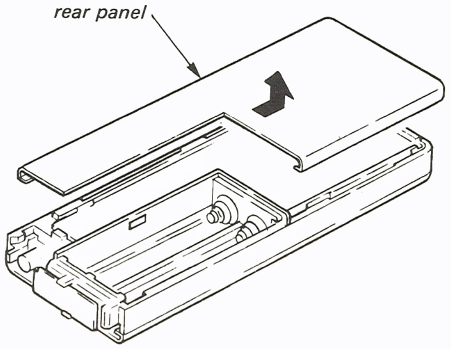
❹ *Open cabinet (bottom) about 30 degree, taking care not to break the claw ※.*

❺ *Remove cabinet (bottom) in the direction of arrow.*

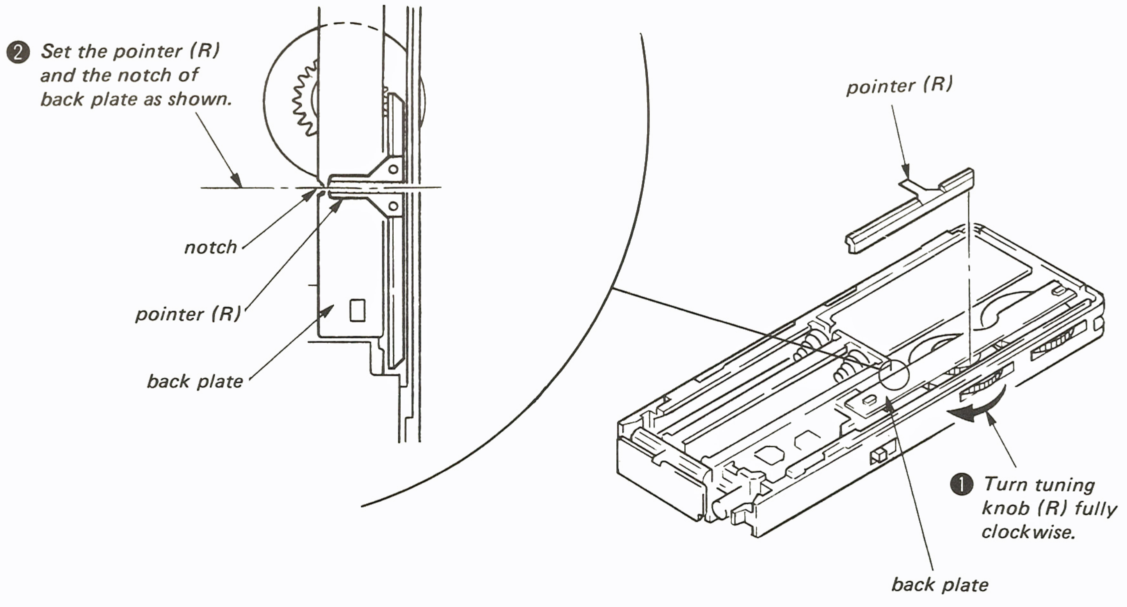
❸ *Remove the claw.*

FRONT PANEL/BACK PLATE/REAR PANEL


front panel
back plate



POINTER (R) SETTING

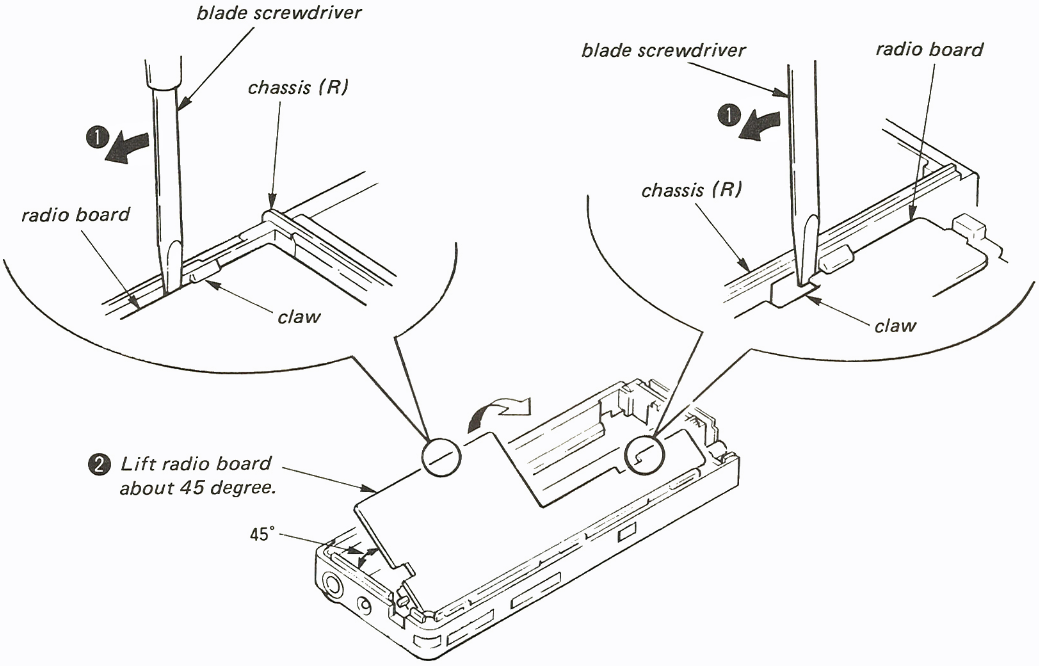

notch
pointer (R)
back plate
pointer (R)
back plate

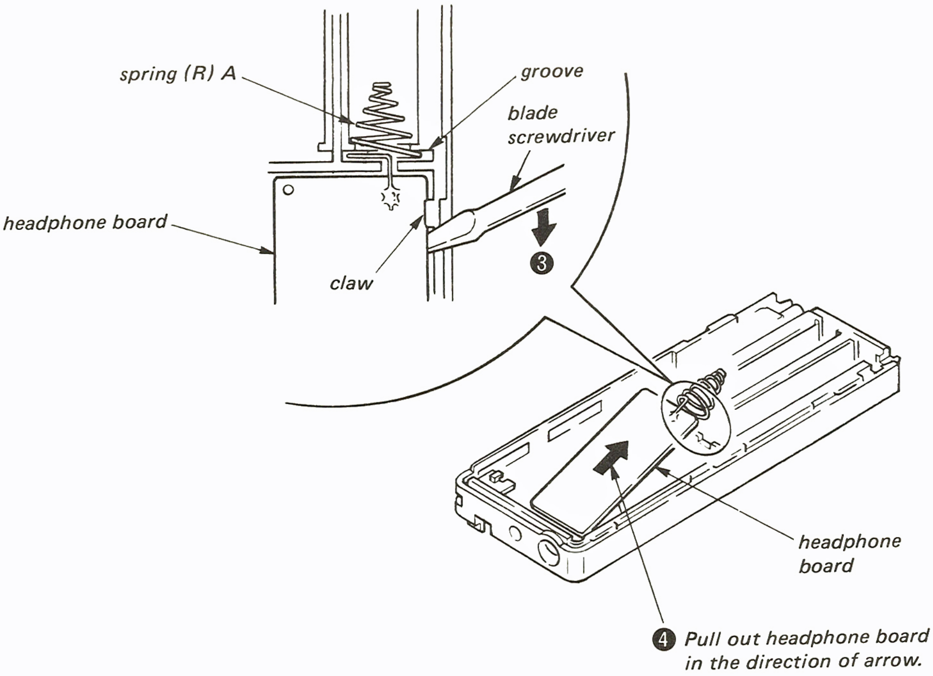
❷ *Set the pointer (R) and the notch of back plate as shown.*

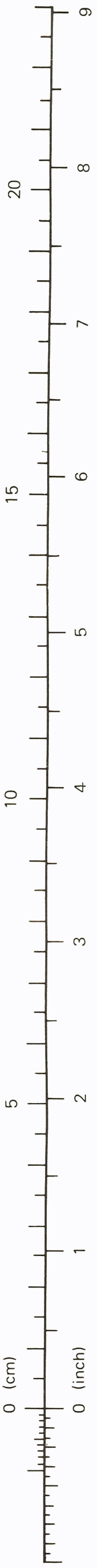
❶ *Turn tuning knob (R) fully clockwise.*

HEADPHONE BOARD

After removing the headphone board, the checking or part replacement on the component side of the radio board can be made.

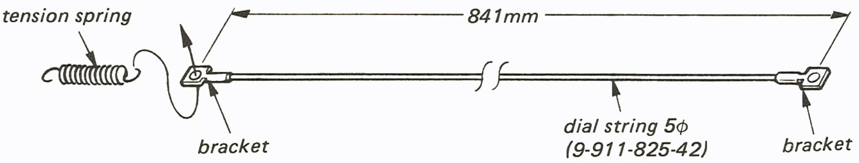

blade screwdriver
chassis (R)
❶
radio board
claw
blade screwdriver
radio board
❶
chassis (R)
claw
❷ Lift radio board about 45 degree.
45°


spring (R) A
groove
blade screwdriver
headphone board
claw
❸
headphone board
❹ Pull out headphone board in the direction of arrow.


0 (cm)
5
10
15
20
0 (inch)
1
2
3
4
5
6
7
8
9

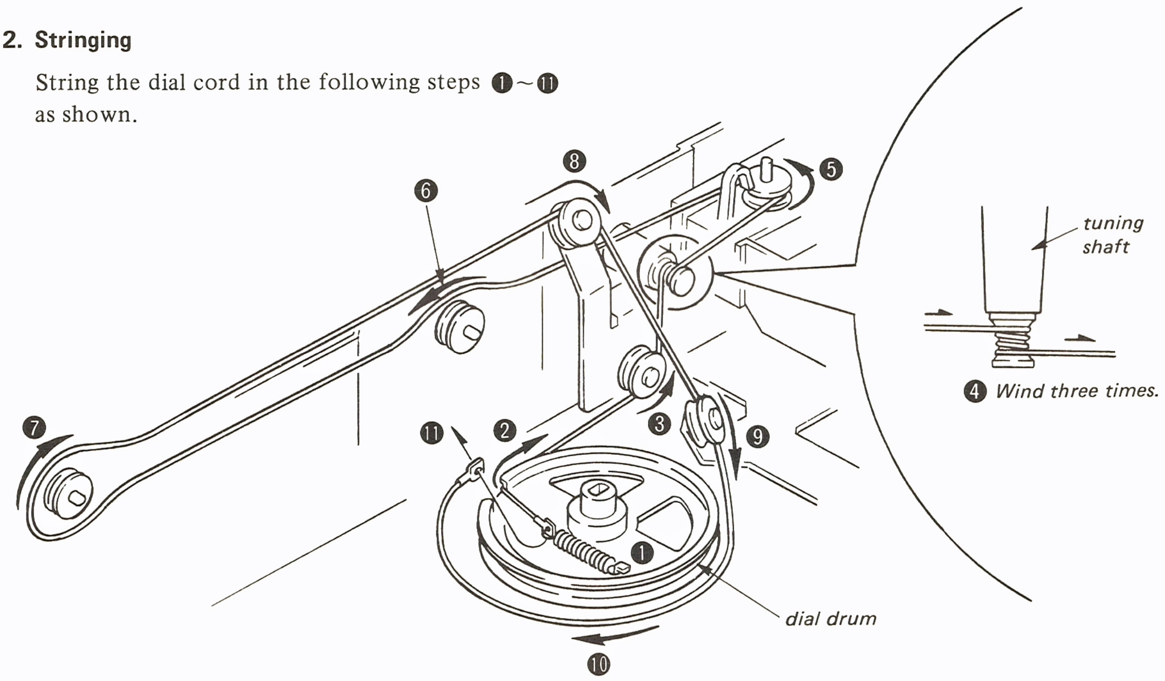
2-3. DIAL CORD STRINGING

1. Preparation


tension spring
841mm
bracket
dial string 5φ
(9-911-825-42)
bracket

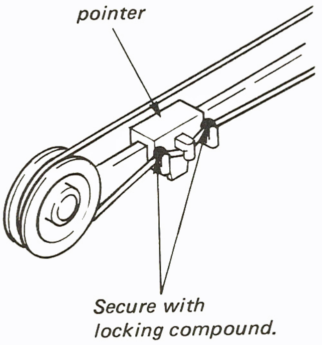
2. Stringing

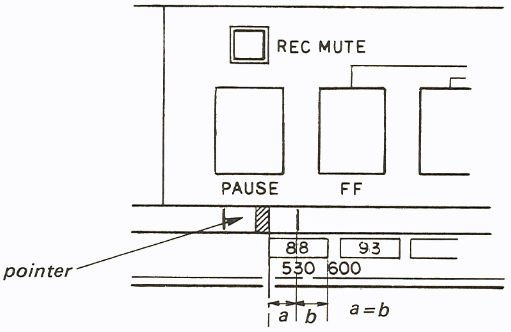
String the dial cord in the following steps ❶~⓫ as shown.


❽
❻
❺
tuning
shaft
❼
⓫
❷
❸
❾
❶
dial drum
⓾

❹ *Wind three times.*

3. Pointer Setting


pointer
Secure with
locking compound.


REC MUTE
PAUSE
FF
pointer
88
93
530
600
a
b
a=b

Set the pointer as shown above by turning TUNING knob fully counterclockwise.

SECTION 3
ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

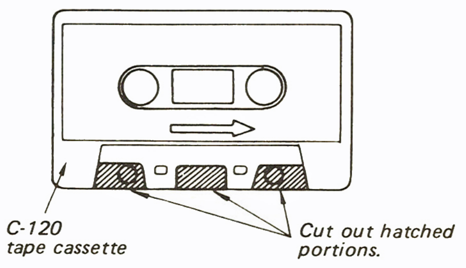
Torque	Torque meter	Meter reading
Forward	CQ-102C	25 – 50 g·cm (0.35 – 0.69 oz·inch)
Fast Forward and Rewind	CQ-201B	85 – 120 g·cm (1.19 – 1.66 oz·inch)
Back Tension	CQ-102C	2.5 – 5 g·cm (0.04 – 0.07 oz·inch)

Tape Tension Measurement

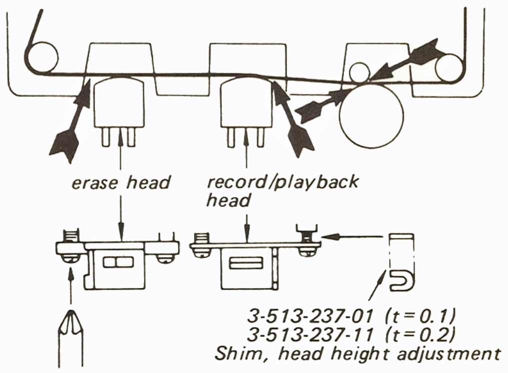
Meter	Meter reading
CQ-403	more than 170 g (more than 5.99 oz)

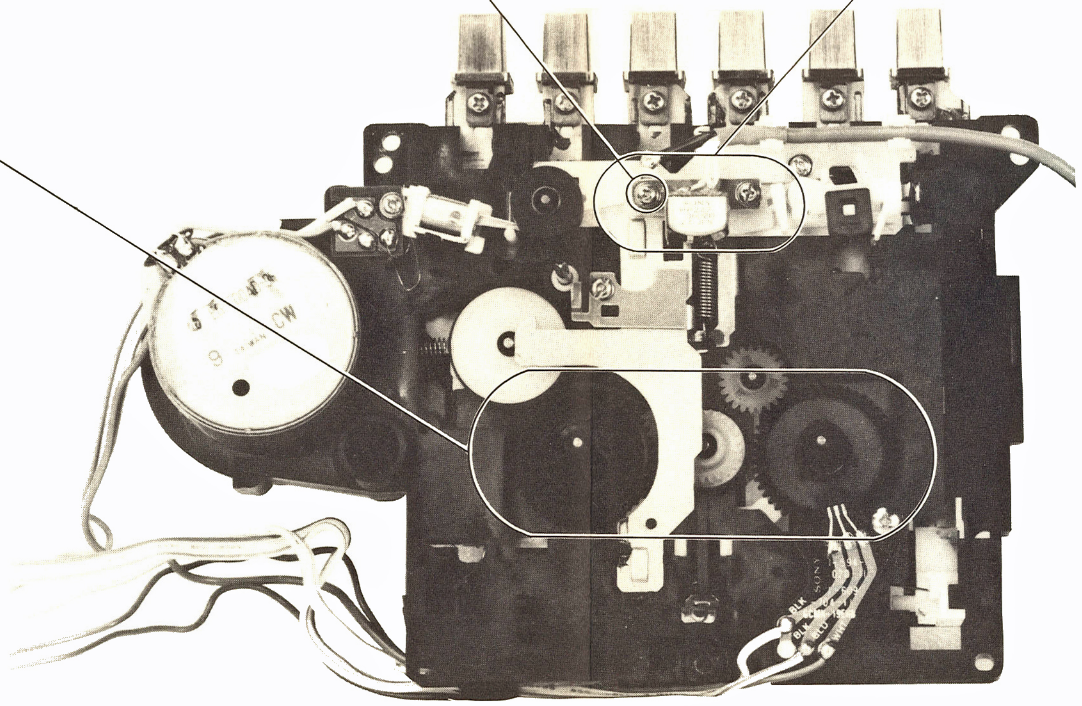
Head Height Adjustment

1. Prepare an adjustment cassette as shown below.


C-120
tape cassette
Cut out hatched portions.

2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at portions of arrow.

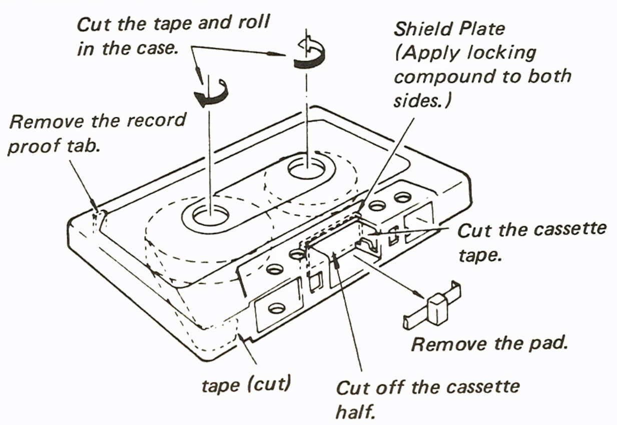

erase head
record/playback head
3-513-237-01 (t=0.1)
3-513-237-11 (t=0.2)
Shim, head height adjustment

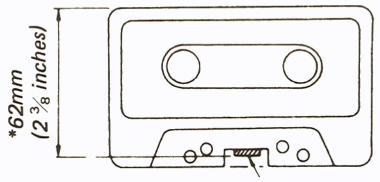


REC/PB Head Installation and Position Adjustment

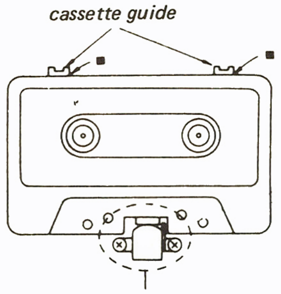
- This adjustment is necessary for the CUE detection of AMS.

1. *Cassette Tape Preparation*


Cut the tape and roll in the case.
Shield Plate (Apply locking compound to both sides.)
Remove the record proof tab.
Cut the cassette tape.
Remove the pad.
tape (cut)
Cut off the cassette half.


*62mm (2 3/8 inches)

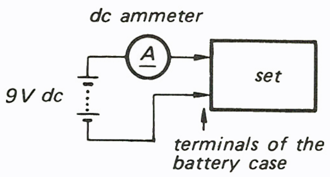
*Spacer (Prepare a suitable material and install it so that the distance marked by * is 62mm (2 3/8 inches) and apply locking compound.)*


cassette guide
■
■

2. *Set the cassette tape into the set and install the head so that the edge of the head is in contact with the spacer when pressing the FWD button and FF button or the FWD button and REW button at the same time. (At this time, the portion marked by ■ is in contact with the cassette). Then, adjust the REC/PB Azimuth Adjustment and apply locking compound to an installation screw.*

Flywheel Thrust Play Adjustment

— Playback Mode —


dc ammeter
A
set
9 V dc
terminals of the battery case

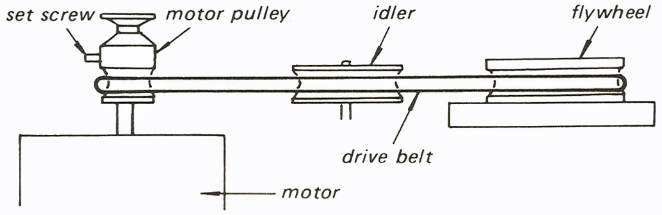
1. Turn the thrust screw counterclockwise until the screw tip leaves from the flywheel shaft.
2. Gradually turn the thrust screw clockwise to the position where the motor current suddenly increases.
3. Then, turn the thrust screw counterclockwise about ¼ turn from the position obtained in step 2.

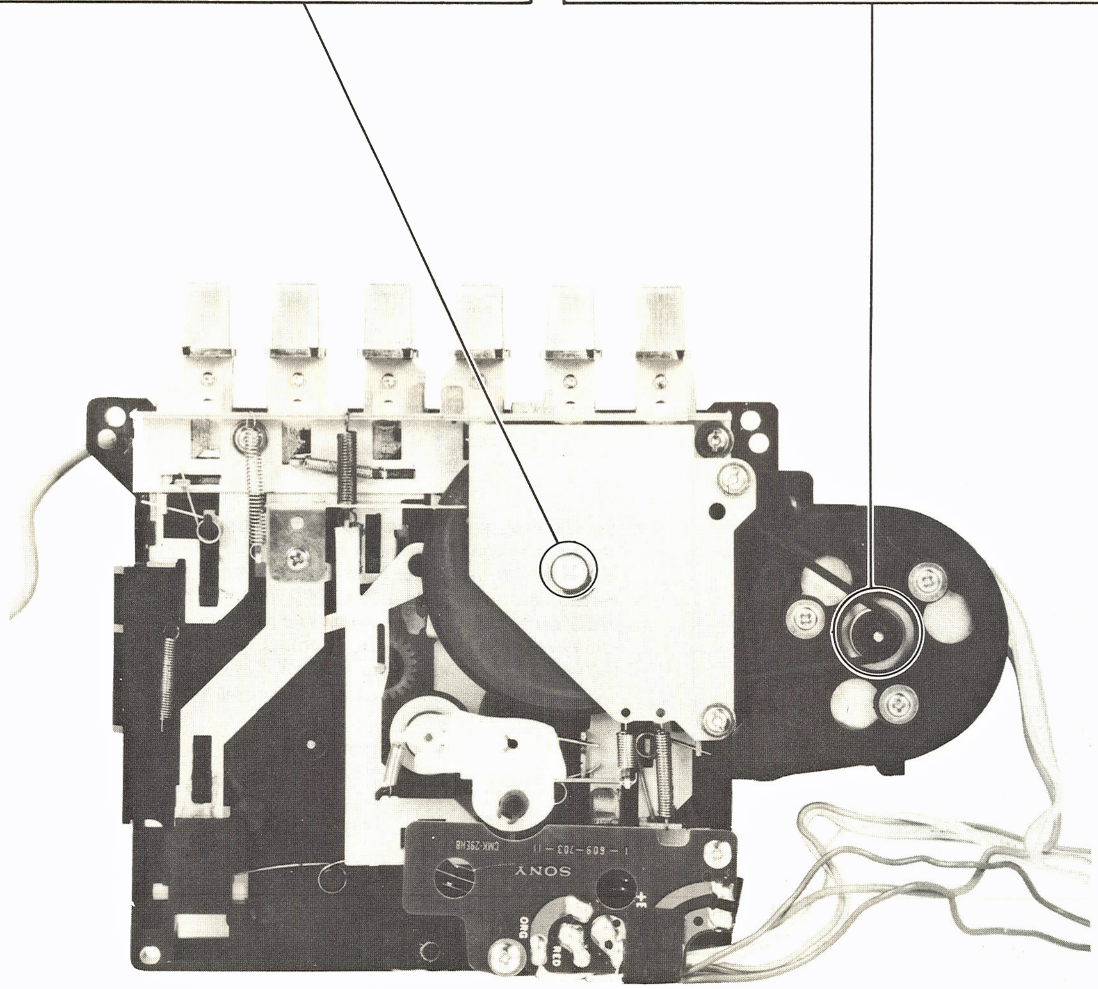
Motor Pulley Height Adjustment

Perform this adjustment, after replacing the motor pulley or the flywheel.

Procedure:

1. Keep the set horizontal.
2. Adjust the motor pulley height so that the drive belt is straight without a twist.


set screw
motor pulley
idler
flywheel
drive belt
motor



3-2. ELECTRICAL ADJUSTMENTS

CASSETTE SECTION

Note: The adjustment should be performed in the order given in this service manual. The adjustments should be performed for both L-CH and R-CH.

- Set the TAPE SELECT switch according to the tape as follows.

tape	TAPE SELECT switch
CS-15	TYPE I
CS-26	TYPE II

- Switches and controls should be set as follows unless otherwise specified.

FUNCTION: TAPE RADIO OFF
VOLUME: mechanical mid
TONE: HIGH
BALANCE: mechanical mid

- Standard Input Level

input terminal	EXT MIC	MIXING MIC
source impedance	300Ω	300Ω
input level	1.5mV (−54dB)	3.5mV (−47dB)

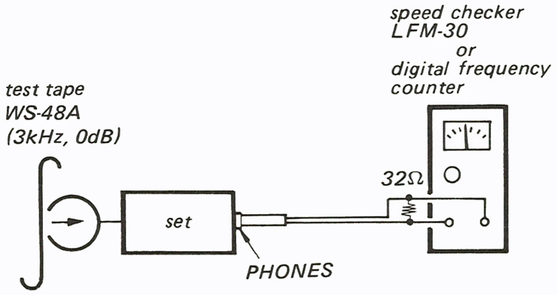
- Standard Output Level

output terminal	PHONES	speaker
load impedance	32Ω	3.2Ω
output level	0.25V (−10dB)	0.775V (0dB)

Tape Speed Adjustment

Procedure:

Mode: playback

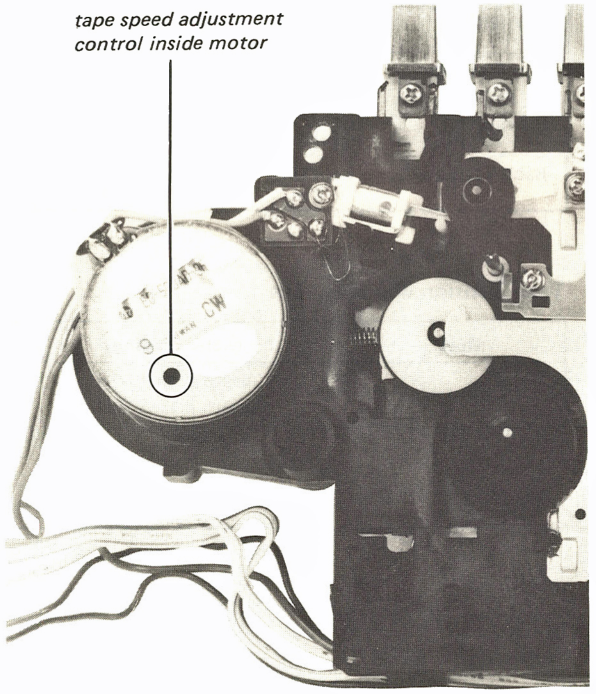

speed checker
LFM-30
or
digital frequency counter
test tape
WS-48A
(3kHz, 0dB)
32Ω
set
PHONES

Specifications:

Speed checker	Digital frequency counter
−2.5 to +3%	2,925 – 3,090Hz

Frequency difference between the begining and the end of the tape should be within 1% (30Hz).

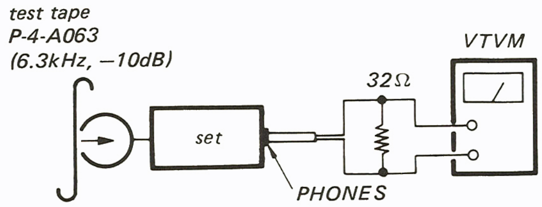
Adjustment Location:


tape speed adjustment control inside motor
CW

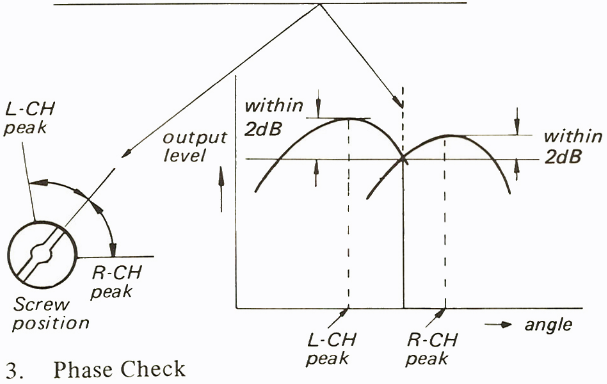
Record/playback Head Azimuth Adjustment

Procedure:

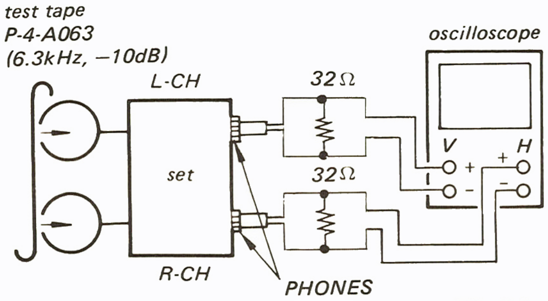
1. Mode: playback

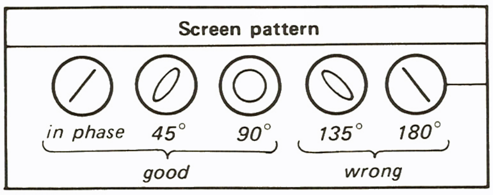

test tape
P-4-A063
(6.3kHz, −10dB)
VTVM
32Ω
set
PHONES

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 2dB.

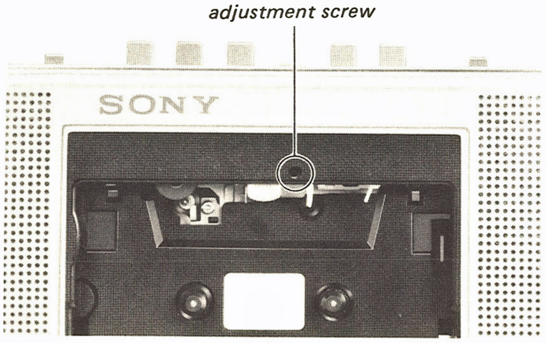

L-CH
peak
output
level
within
2dB
within
2dB
R-CH
peak
Screw
position
L-CH
peak
R-CH
peak
angle

3. Phase Check
   Mode: playback


test tape
P-4-A063
(6.3kHz, −10dB)
L-CH
32Ω
oscilloscope
set
32Ω
V
H
+
+
−
−
R-CH
PHONES


Screen pattern
in phase
45°
90°
135°
180°
good
wrong

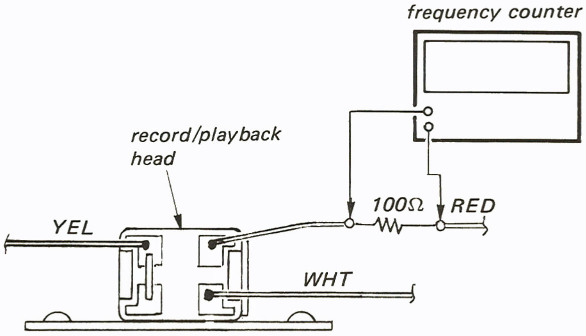
Adjustment Location:


adjustment screw
SONY

Record Bias OSC Frequency Adjustment

Procedure:

1. Mode: record

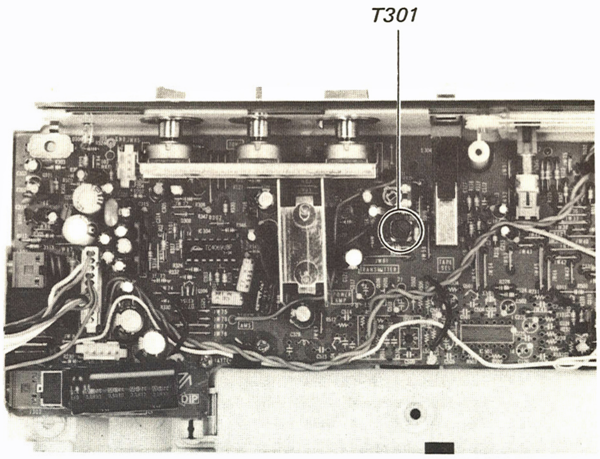

frequency counter
record/playback
head
YEL
100Ω
RED
WHT

Connect a 100Ω resistor as above.

2. Adjust T301 for 52kHz±1kHz reading on the frequency counter.

Adjustment Location:

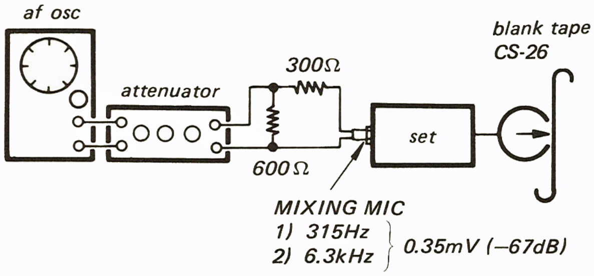
– main board –



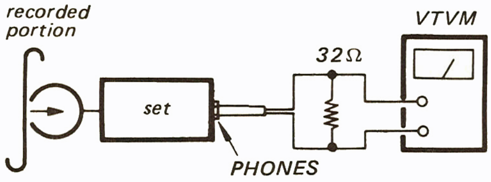
Record Bias Adjustment

Procedure:

1. Mode: record


af osc
attenuator
300Ω
600Ω
set
blank tape
CS-26
MIXING MIC
1) 315Hz
2) 6.3kHz
0.35mV (−67dB)

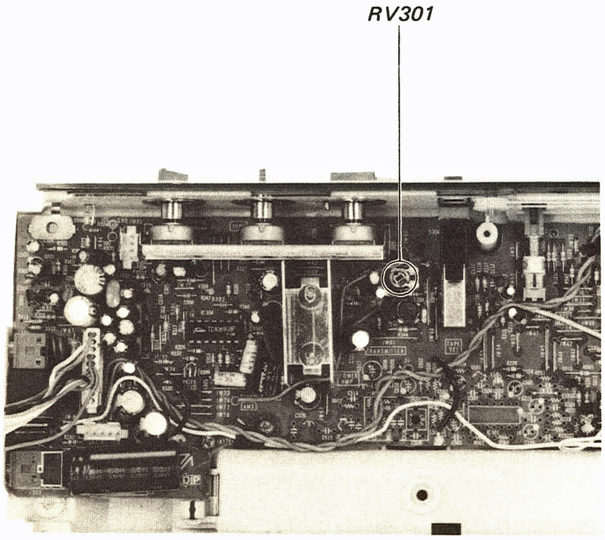
2. Mode: playback


recorded portion
set
PHONES
32Ω
VTVM

Confirm that the 6.3kHz playback signal level is 2dB $^{+1}_{-2}$dB relative to the 315Hz signal. If necessary, adjust RV301 and repeat the steps given above.

Adjustment Location:

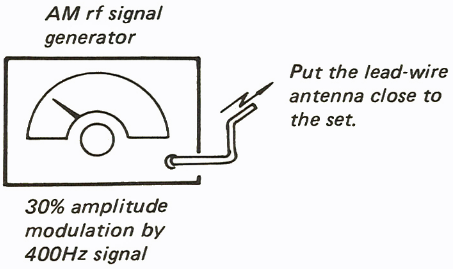
— main board —

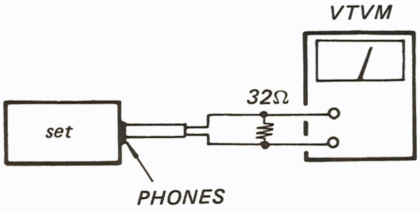


RADIO SECTION

- **RADIO CASSETTE SECTION**

AM SECTION


AM rf signal generator
Put the lead-wire antenna close to the set.
30% amplitude modulation by 400Hz signal


VTVM
32Ω
set
PHONES

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

1. AM IF ALIGNMENT

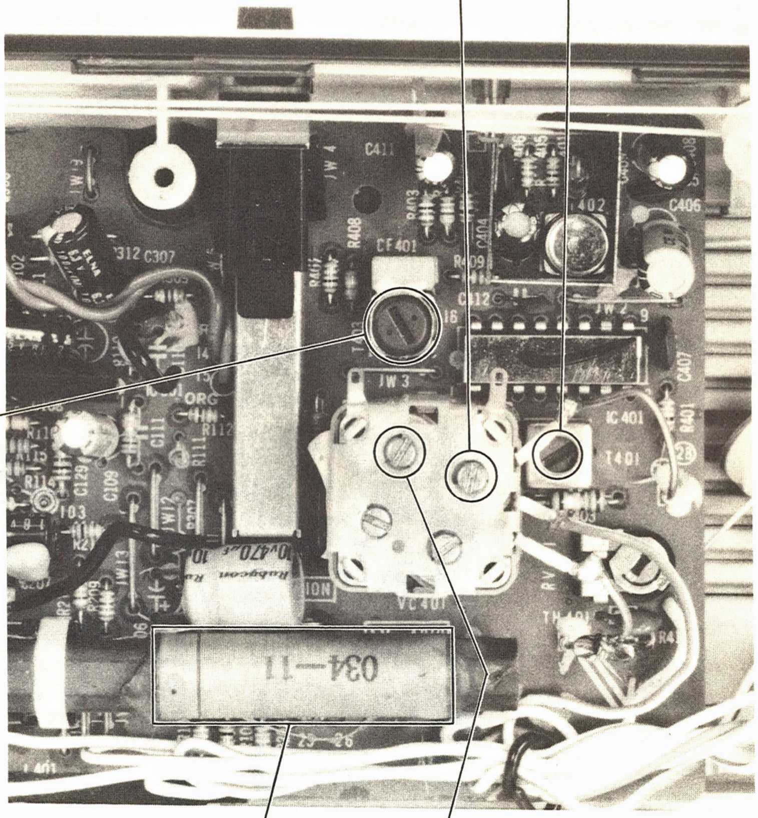
Adjust for a maximum reading on VTVM.

455kHz	T403

2. AM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM.

dial pointer indication	f max	f min
frequency of the signal generator	1,680kHz	516kHz
adjustment parts	CT4	T401



L401	CT3
620kHz	1,400kHz

Adjust for a maximum reading on VTVM.

3. AM TRACKING ADJUSTMENT

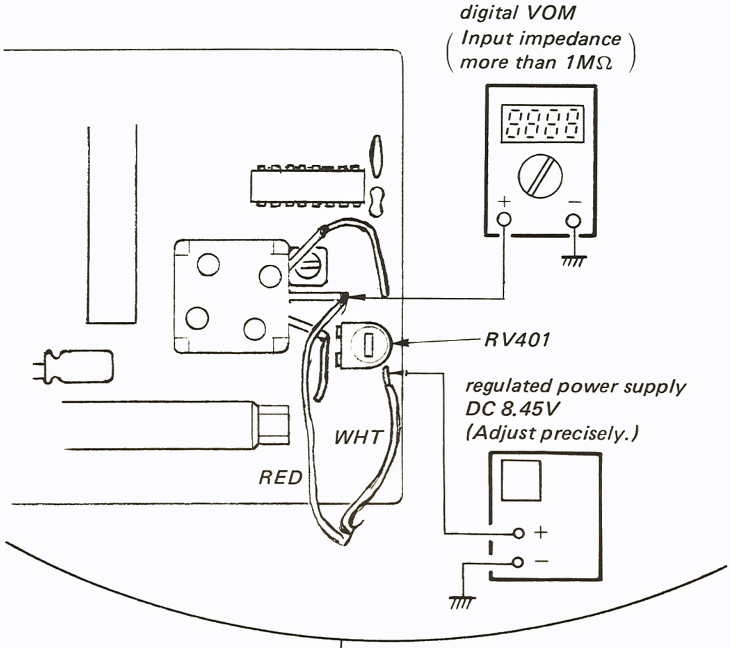
FM SECTION

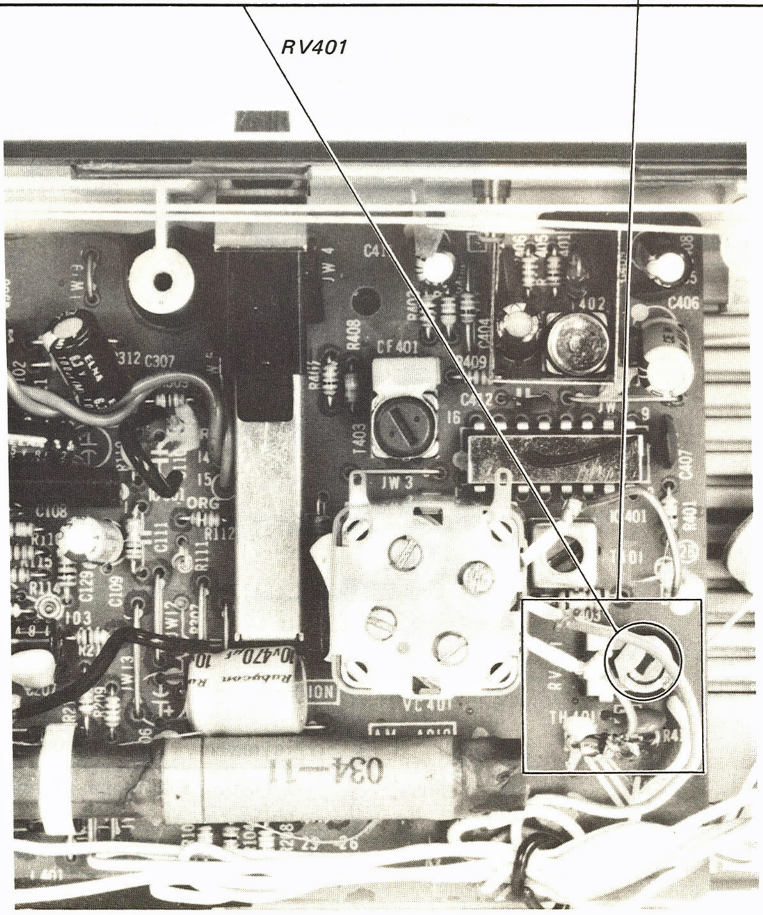
FM Tuning Voltage Adjustment

Adjustment Location:

– main board (component side) –

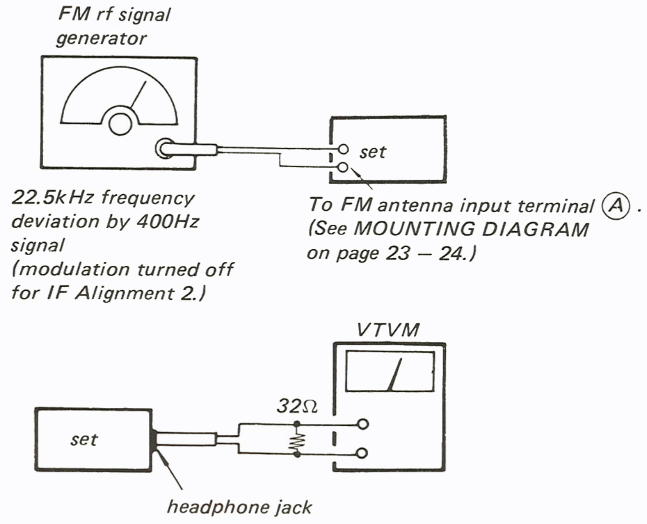
1. Turn TUNING knob fully counterclockwise.
2. Adjust RV401 for 3.90V±50mV reading on the digital VOM.


digital VOM
(Input impedance more than 1MΩ)
+
−
RV401
regulated power supply
DC 8.45V
(Adjust precisely.)
WHT
RED
+
−



• FM STEREO RECEIVER SECTION

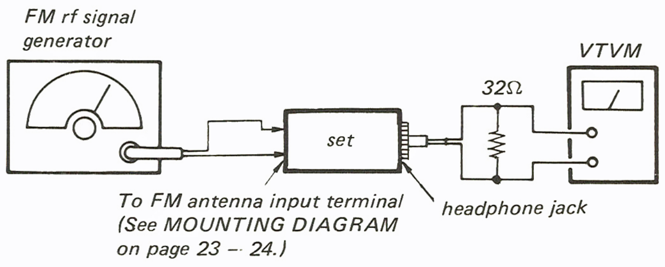
FM SECTION


FM rf signal generator
set
22.5kHz frequency deviation by 400Hz signal (modulation turned off for IF Alignment 2.)
To FM antenna input terminal Ⓐ. (See MOUNTING DIAGRAM on page 23 – 24.)
VTVM
32Ω
set
headphone jack

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

2. FM IF Alignment (Discriminator Adjustment)

Procedure:


FM rf signal generator
VTVM
32Ω
set
To FM antenna input terminal (See MOUNTING DIAGRAM on page 23 – 24.)
headphone jack

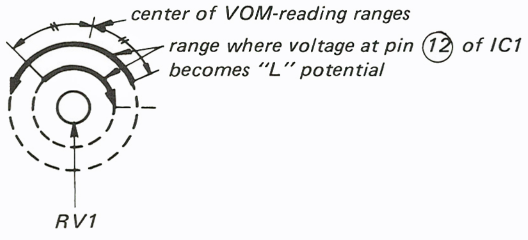
Carrier frequency: 98MHz
Modulation: 400Hz, ± 75kHz deviation (100%)
Output level: as low as posible

1. Tune the set to 98MHz.
2. Adjust signal generator frequency carefully for a maximum reading on VTVM.
3. Assume that the VTVM reading in step 2 is 0dB.
4. Increase signal generator frequency for –3dB against 0dB in step 3.
5. Note the frequency deviation Δf1 of signal generator.
6. Decrease signal generator frequency for –3dB against 0dB in step 3.
7. Note the frequency deviation Δf2 of signal generator.
8. Adjust T1 for Δf1 ≒ Δf2.

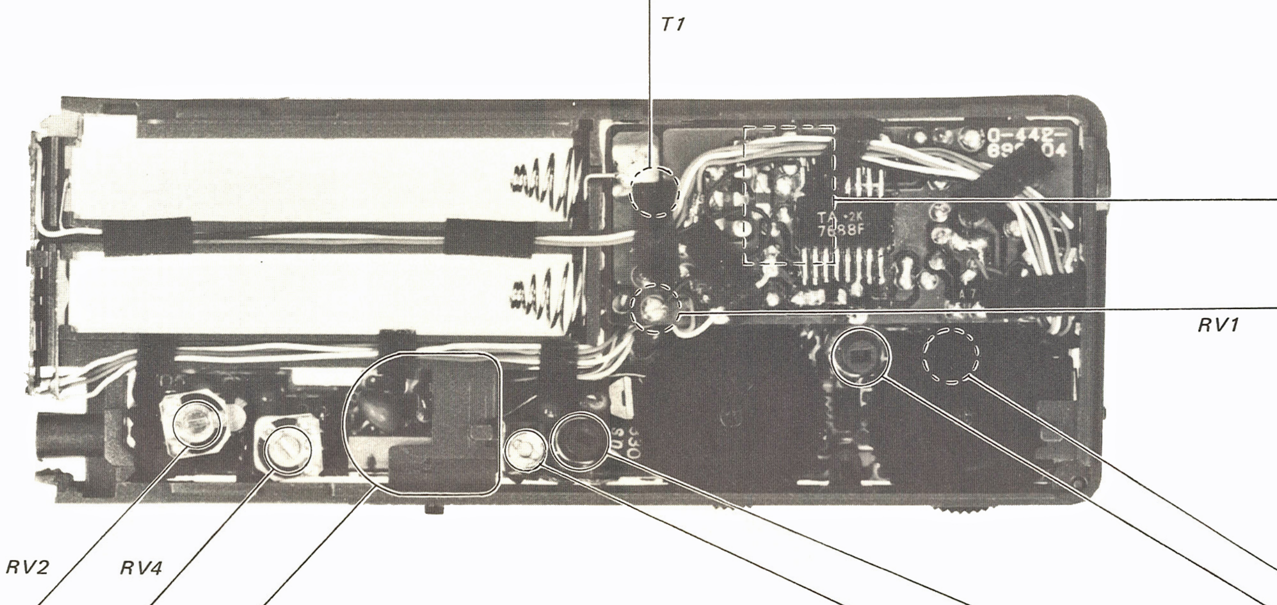
VCO Adjustment

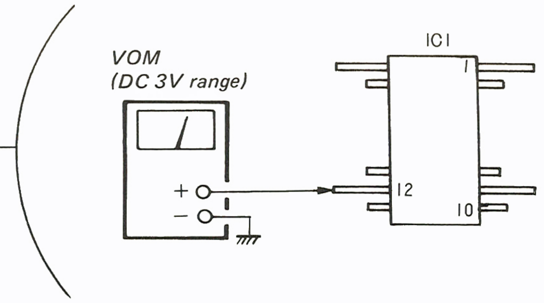
Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV1 clockwise or counterclockwise and memorize the VOM-reading range of "L" potential at the pin ⑫ of IC1.


center of VOM-reading ranges
range where voltage at pin ⑫ of IC1 becomes "L" potential
RV1

reference level . . . H: 2.6V
L: 0.04V


T1
RV1
RV2
RV4

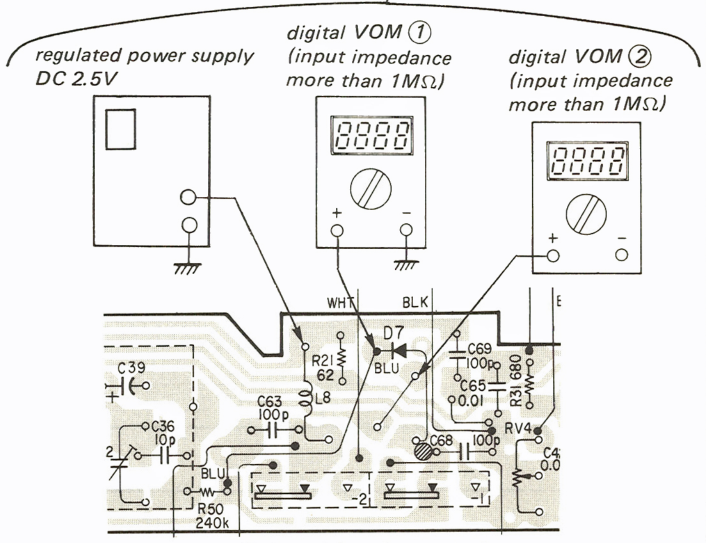

VOM (DC 3V range)
IC1
1
12
10

1. FM Tuning Voltage Adjustment

(Perform this adjustment before Frequency Coverage Adjustment and Tracking Adjustment.)

Procedure:

1. Adjust RV2 for 8.45V± 50mV reading on the digital VOM ①.
2. Turn TUNING knob fully downward (f min).
3. Adjust RV4 for 2.80V±50mV reading on the digital VOM ②.
4. Confirm that the reading on the digital VOM ① does not change.


regulated power supply DC 2.5V
digital VOM ① (input impedance more than 1MΩ)
digital VOM ② (input impedance more than 1MΩ)
WHT
BLK
D7
BLU
R21 62
L8
C63 100p
C69 100p
C65 0.01
R31 680
RV4
C68
100p
C39
C36 10p
BLU
R50 240k

radio board (conductor side)

3. FM FREQUENCY COVERAGE ADJUSTMENT

(Perform after FM Tuning Voltage Adjustment)

adjustment parts	CT2	L2
frequency of the signal generator	109.5MHz	86.5MHz
dial pointer indication	f max	f min
Adjust for a maximum reading on VTVM.		

4. FM TRACKING ADJUSTMENT

(Perform after FM Tuning Voltage Adjustment)

Adjust for a maximum reading on VTVM.

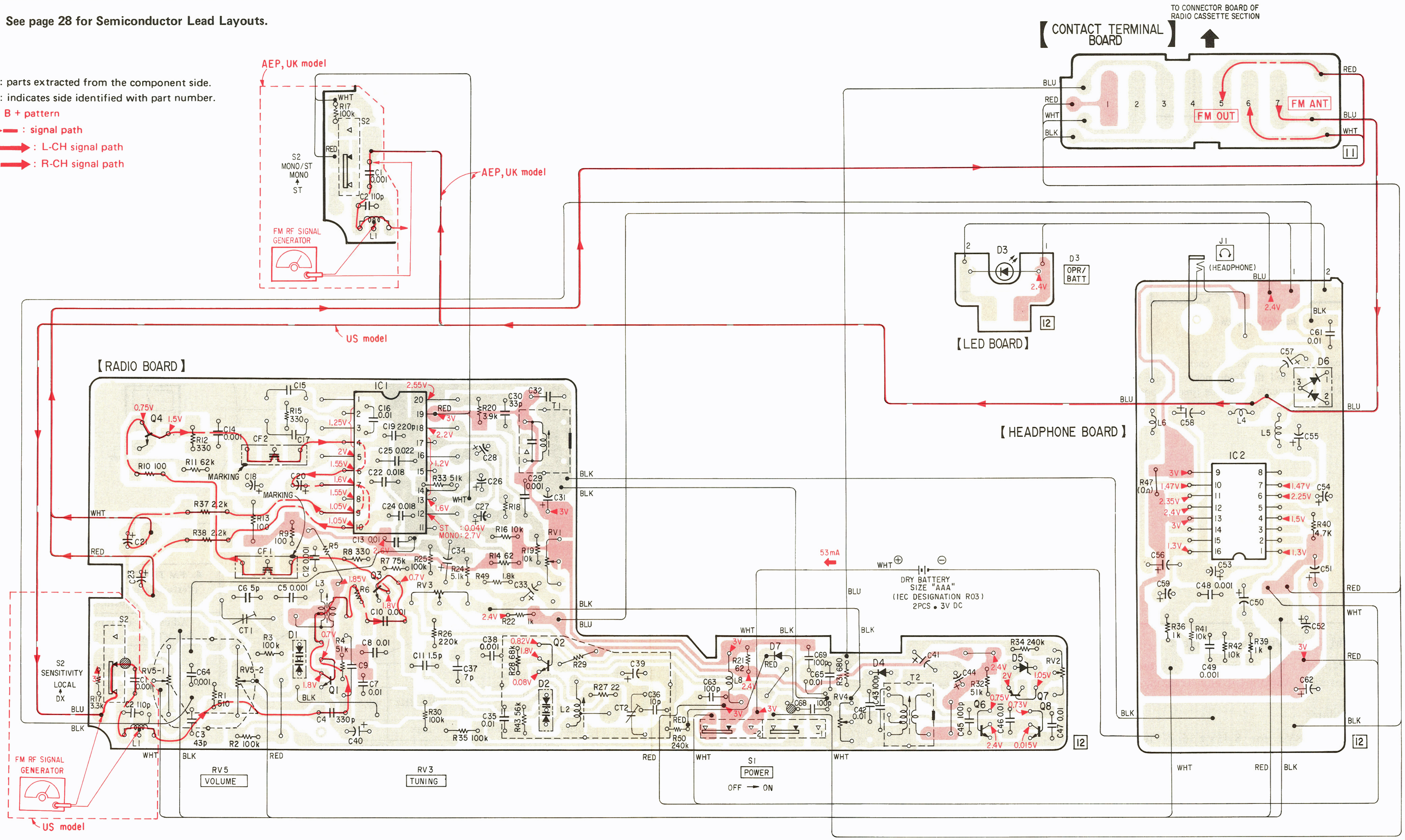
CT1	109.5MHz
L3	86.5MHz

A B C D E F G H I J K L M N O

4-1. MOUNTING DIAGRAM — FM Stereo Receiver Section —

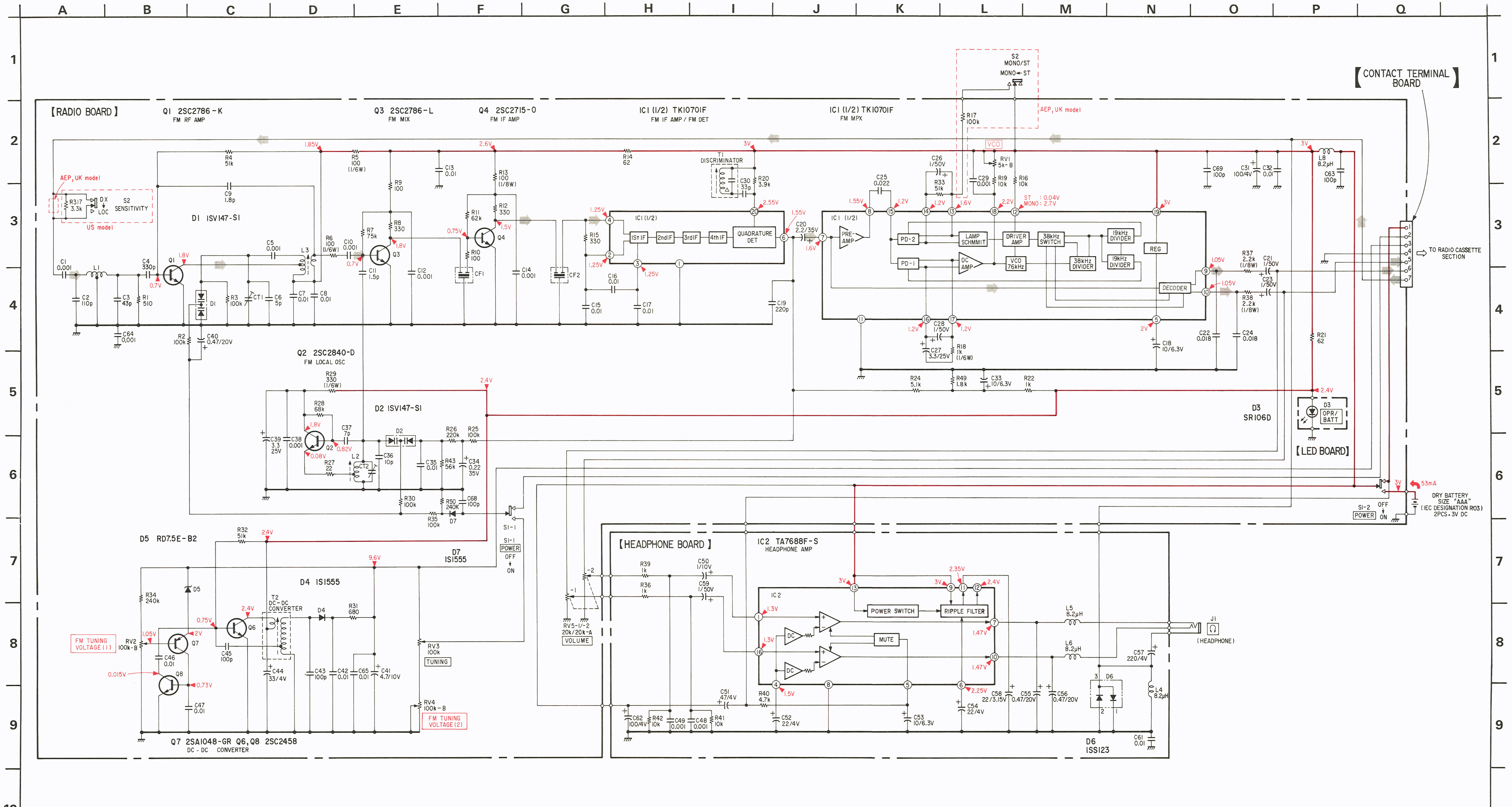
- See page 28 for Semiconductor Lead Layouts.

Note:
- ○— : parts extracted from the component side.
- [ ]← : indicates side identified with part number.
- ▨ : B + pattern
- ━ ━▶ : signal path
- ━━━▶ : L-CH signal path
- ━ · ━▶ : R-CH signal path


1
2
3
4
5
6
7
8
9
10
AEP, UK model
WHT
R17 100k
S2
RED
S2 MONO/ST MONO ST
C1 0.001
C2 110p
L1
FM RF SIGNAL GENERATOR
AEP, UK model
US model
TO CONNECTOR BOARD OF RADIO CASSETTE SECTION
【CONTACT TERMINAL BOARD】
BLU
RED
WHT
BLK
1 2 3 4 5 6 7
FM OUT
FM ANT
RED
BLU
WHT
11
D3
2.4V
D3 OPR/BATT
12
【LED BOARD】
J1
(HEADPHONE)
BLU
BLK
2.4V
C61 0.01
C57
D6
【HEADPHONE BOARD】
【RADIO BOARD】
IC1
2.55V
Q4
0.75V
1.5V
R12 330
C14 0.001
R15 330
C15
C16 0.01
C19 220p
C25 0.022
C22 0.018
C24 0.018
CF2
C17
R10 100
R11 62k
MARKING
C18
C20
1.25V
2V
1.55V
1.6V
1.55V
1.05V
1.05V
R20 3.9k
C30 33p
C32
T1
3V
2.2V
1.2V
C28
R33 51k
C26
C29 0.001
C31
C27
R18
3V
1.6V
ST : 0.04V
MONO : 2.7V
R16 10k
RV1
R14 62
R19 10k
WHT
R37 2.2k
R13 100
R38 2.2k
R9 100
C21
C23
CF1
C12 0.01
R5
R8 330
C13 0.01
2.6V
R7 75k
R25 100k
C34
R24 5.1k
R49
1.8k
C33
1.85V
0.7V
Q3
R6
RV3
C10 0.001
1.8V
C6 5p
C5 0.001
L3
CT1
R3 100k
D1
0.7V
R4 51k
C8 0.01
C9
C7 0.01
Q1
1.8V
R26 220k
C11 1.5p
C37 7p
C38 0.001
R28 68k
0.82V
1.8V
Q2
R29
0.08V
D2
R22 1k
2.4V
C39
R27 22
L2
CT2
C36 10p
R30 100k
C35 0.01
R43 5.6k
R35 100k
S2 SENSITIVITY LOCAL DX
RV5-1
RV5-2
C64 0.001
C11 0.001
R17 3.3k
C2 110p
R1 510
C3 43p
C4 330p
C40
R2 100k
BLU
BLK
L1
WHT
BLK
RED
RED
BLK
BLK
BLU
RV5 VOLUME
RV3 TUNING
FM RF SIGNAL GENERATOR
US model
53mA
WHT ⊕ ⊖
DRY BATTERY SIZE "AAA" (IEC DESIGNATION R03) 2PCS • 3V DC
BLU
WHT
BLK
BLK
3V
R21 62
D7
RED
C69 100p
C65 0.01
R31 680
L8
2.4V
C63 100p
3V
3V
C68
100p
RV4
D4
C42 0.01
T2
C41
C44
R34 240k
D5
RV2
2.4V
2V
1.05V
R32 51k
0.75V
Q6
0.73V
Q8
Q7
C45 100p
C46 0.01
C47 0.01
2.4V
0.015V
RED
R50 240k
12
RED
WHT
S1 POWER
OFF → ON
WHT
BLU
L6
C58
L4
L5
C55
IC2
R47 (0Ω)
3V
1.47V
2.35V
2.4V
3V
1.3V
1.47V
2.25V
1.5V
1.3V
C54
R40 4.7k
C56
C53
C51
C59
C48 0.001
C50
R36 1k
R41 10k
R42 10k
C49 0.001
R39 1k
3V
C52
C62
RED
WHT
RED
BLK
BLK
WHT
RED
BLK
12

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Q·IC			4	1	IC1 3	2					6 7	8		IC2	
D				1			2		7	4	3 5			6	

4-2. SCHEMATIC DIAGRAM — FM Stereo Receiver Section —


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
1
2
3
4
5
6
7
8
9
10
【RADIO BOARD】
Q1 2SC2786-K
FM RF AMP
Q3 2SC2786-L
FM MIX
Q4 2SC2715-O
FM IF AMP
IC1 (1/2) TK10701F
FM IF AMP / FM DET
IC1 (1/2) TK10701F
FM MPX
S2
MONO/ST
MONO ← ST
AEP, UK model
R17
100k
AEP, UK model
R317
3.3k
DX
LOC
S2
SENSITIVITY
US model
D1 1SV147-S1
R4
51k
C9
1.8p
1.85V
R5
100
(1/6W)
R9
100
C13
0.01
2.6V
R13
100
(1/8W)
R12
330
R11
62k
0.75V
1.5V
R8
330
R7
75k
1.8V
R6
100
(1/6W)
C10
0.001
0.7V
C11
1.5p
C12
0.001
R10
100
CF1
C14
0.001
CF2
C1
0.001
L1
C2
110p
C3
43p
R1
510
C4
330p
Q1
1.8V
0.7V
C5
0.001
L3
D1
R3
100k
CT1
C6
5p
C7
0.01
C8
0.01
C64
0.001
R2
100k
C40
0.47/20V
Q2 2SC2840-D
FM LOCAL OSC
R29
330
(1/6W)
2.4V
R28
68k
D2 1SV147-S1
1.8V
C39
3.3
25V
C38
0.001
Q2
0.82V
0.08V
C37
7p
R27
22
L2
CT2
C36
10p
D2
R26
220k
R25
100k
C35
0.01
R43
56k
C34
0.22
35V
R30
100k
R50
240K
C68
100p
R35
100k
D7
S1-1
S1-1
POWER
OFF
ON
R14
62
3V
T1
DISCRIMINATOR
C30
33p
R20
3.9k
2.55V
1.25V
IC1 (1/2)
1st IF
2nd IF
3rd IF
4th IF
QUADRATURE DET
R15
330
1.25V
C16
0.01
1.25V
C15
0.01
C17
0.01
C19
220p
1.55V
C20
2.2/35V
1.6V
IC1 (1/2)
PRE-AMP
PD-2
PD-1
LAMP SCHMMIT
DC AMP
DRIVER AMP
VCO 76kHz
38kHz SWITCH
38kHz DIVIDER
19kHz DIVIDER
19kHz DIVIDER
REG
DECODER
C25
0.022
1.55V
1.2V
C26
1/50V
R33
51k
1.2V
1.6V
VCO
RV1
5k-B
C29
0.001
R19
10k
R16
10k
2.2V
ST : 0.04V
MONO : 2.7V
3V
1.2V
C28
1/50V
1.2V
C27
3.3/25V
R18
1k
(1/6W)
2V
C18
10/6.3V
R24
5.1k
R49
1.8k
C33
10/6.3V
R22
1k
C69
100p
C31
100/4V
C32
0.01
3V
L8
8.2μH
C63
100p
1.05V
R37
2.2k
(1/8W)
C21
1/50V
C23
1/50V
1.05V
R38
2.2k
(1/8W)
C22
0.018
C24
0.018
R21
62
2.4V
D3
SR106D
D3
OPR/BATT
【LED BOARD】
【CONTACT TERMINAL BOARD】
TO RADIO CASSETTE SECTION
3V
53mA
DRY BATTERY SIZE "AAA" (IEC DESIGNATION R03) 2PCS・3V DC
S1-2
POWER
OFF
ON
D5 RD7.5E-B2
R32
51k
2.4V
9.6V
D7
1S1555
R34
240k
D5
D4 1S1555
T2
DC-DC CONVERTER
2.4V
0.75V
2V
1.05V
FM TUNING VOLTAGE (1)
RV2
100k-B
Q7
Q6
C45
100p
C46
0.01
0.015V
Q8
0.73V
C47
0.01
C44
33/4V
D4
R31
680
C43
100p
C42
0.01
C65
0.01
C41
4.7/10V
RV3
100k
TUNING
RV4
100k-B
FM TUNING VOLTAGE (2)
Q7 2SA1048-GR Q6,Q8 2SC2458
DC-DC CONVERTER
RV5-1/-2
20k/20k-A
VOLUME
【HEADPHONE BOARD】
IC2 TA7688F-S
HEADPHONE AMP
R39
1k
R36
1k
C50
1/10V
C59
1/50V
IC2
3V
3V
2.35V
2.4V
POWER SWITCH
RIPPLE FILTER
1.3V
1.3V
DC
DC
MUTE
1.47V
1.47V
1.5V
2.25V
C62
100/4V
R42
10k
C49
0.001
C48
0.001
R41
10k
C51
47/4V
R40
4.7k
C52
22/4V
C53
10/6.3V
C54
22/4V
C58
22/3.15V
C55
0.47/20V
C56
0.47/20V
L5
8.2μH
L6
8.2μH
C57
220/4V
L4
8.2μH
D6
1SS123
C61
0.01
J1
(HEADPHONE)

Note:

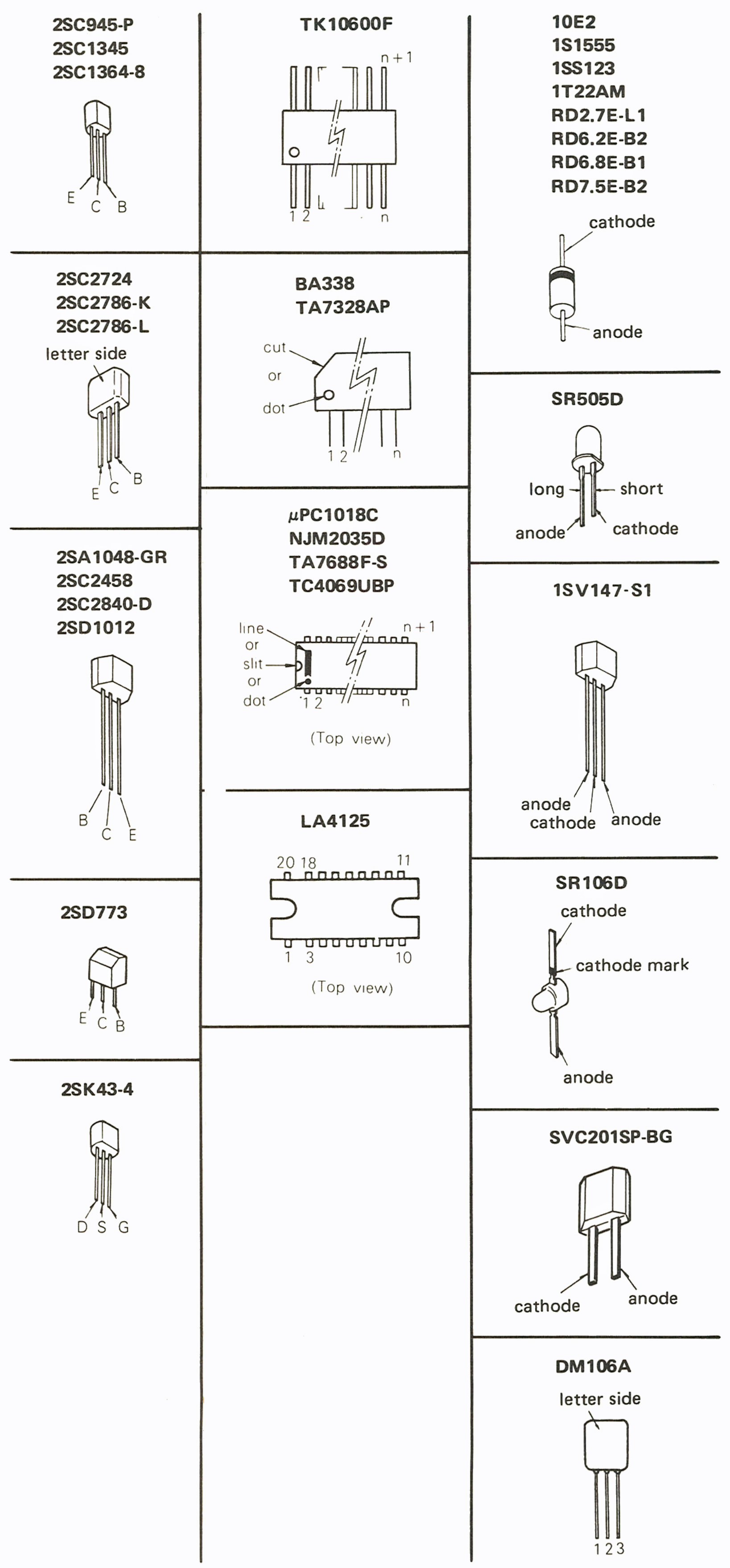
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/10W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).
  ST: STEREO
  MONO: MONO
- Voltage variations may be noted due to normal production tolerances.
- Switch

Ref. No.	Switch	Position
S1	POWER	OFF
S2	SENSITIVITY	DX

- ➡ : signal path

Note: Voltages are measured with a VOM (50kΩ/V).

- **Semiconductor Lead Layouts**

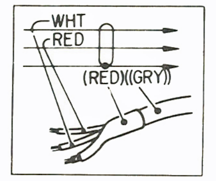

2SC945-P
2SC1345
2SC1364-8
E
C
B
TK10600F
n+1
1 2
n
10E2
1S1555
1SS123
1T22AM
RD2.7E-L1
RD6.2E-B2
RD6.8E-B1
RD7.5E-B2
cathode
anode
2SC2724
2SC2786-K
2SC2786-L
letter side
E
C
B
BA338
TA7328AP
cut
or
dot
1 2
n
SR505D
long
short
anode
cathode
2SA1048-GR
2SC2458
2SC2840-D
2SD1012
B
C
E
μPC1018C
NJM2035D
TA7688F-S
TC4069UBP
line
or
slit
or
dot
n+1
1 2
n
(Top view)
1SV147-S1
anode
cathode
anode
2SD773
E
C
B
LA4125
20 18
11
1 3
10
(Top view)
SR106D
cathode
cathode mark
anode
2SK43-4
D
S
G
SVC201SP-BG
cathode
anode
DM106A
letter side
1 2 3

4-3. MOUNTING DIAGRAM — Radio Cassette Section —

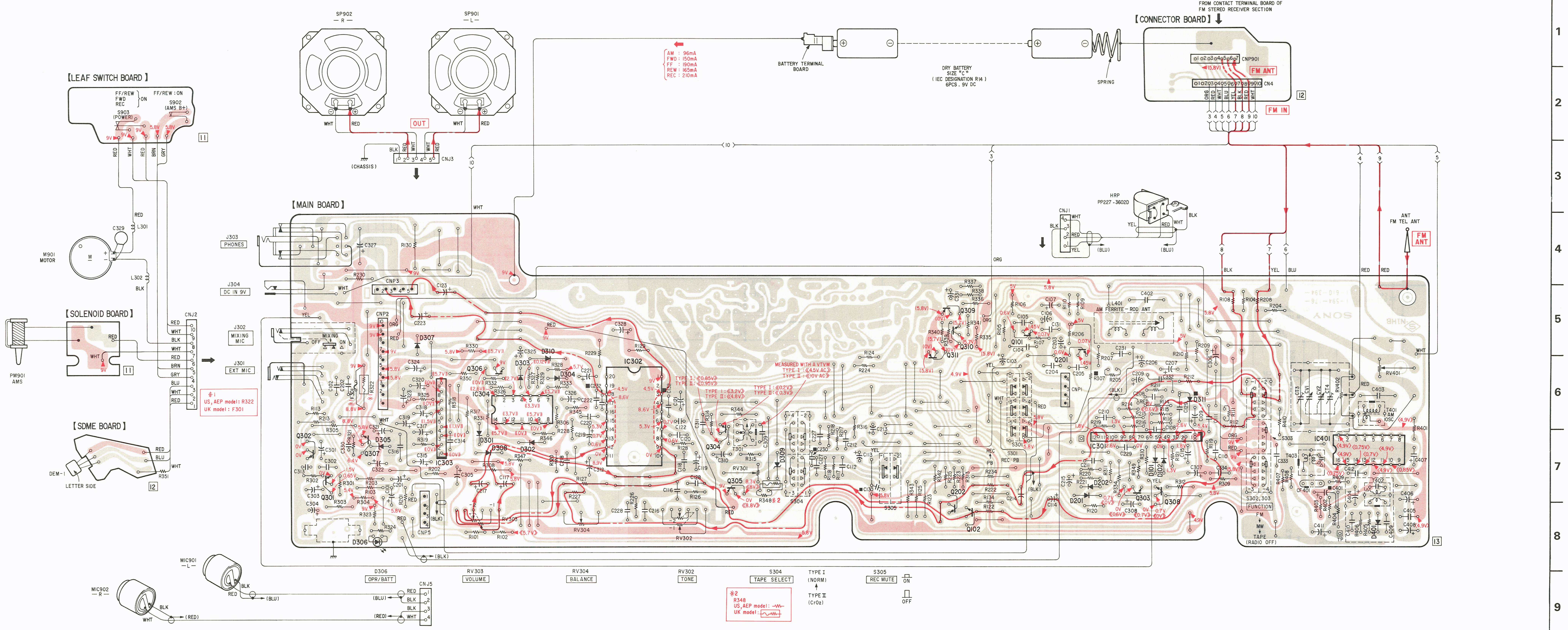
- See page 28 for Semiconductor Lead Layouts.

Note:

- Color code of sleeving over the end of the jacket.

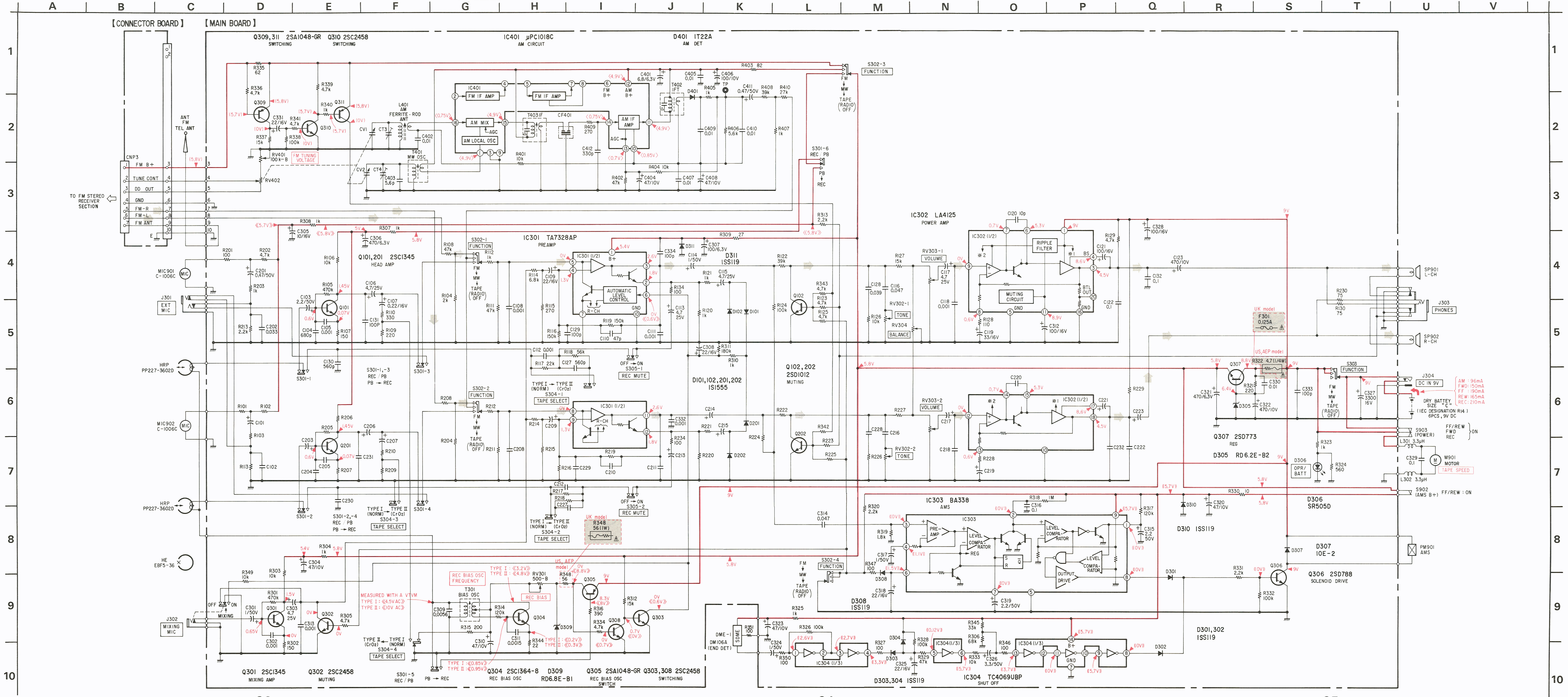

WHT
RED
(RED)((GRY))

- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- [ ]⊢ : indicates side identified with part number.
- ▨ : B + pattern
- ▬▬➡▬ : signal path
- ▬▬▬▬➡ : L-CH signal path
- ▬▬▪▪▬➡ : R-CH signal path


A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9 10
SP902 — R —
SP901 — L —
OUT
(CHASSIS)
CNJ3
BATTERY TERMINAL BOARD
DRY BATTERY SIZE "C" (IEC DESIGNATION R14) 6PCS, 9V DC
SPRING
FROM CONTACT TERMINAL BOARD OF FM STEREO RECEIVER SECTION
【CONNECTOR BOARD】
CNP901
CN4
FM ANT
FM IN
AM : 96mA
FWD : 150mA
FF : 190mA
REW : 165mA
REC : 210mA
【LEAF SWITCH BOARD】
FF/REW FWD REC
FF/REW : ON
S903 (POWER)
S902 (AMS B+)
M901 MOTOR
C329
L301
L302
【SOLENOID BOARD】
PM901 AMS
CNJ2
【SDME BOARD】
DEM-1
LETTER SIDE
R351
J303 PHONES
J304 DC IN 9V
J302 MIXING MIC
J301 EXT. MIC
※1 US, AEP model: R322 UK model: F301
【MAIN BOARD】
MIXING OFF ON
HRP PP227-36020
CNJ1
ANT FM TEL ANT
FM ANT
AM FERRITE-ROD ANT
L401
IC302
IC303
IC304
IC301
IC401
Q101 Q102 Q201 Q202 Q301 Q302 Q303 Q304 Q305 Q306 Q307 Q308 Q309 Q310 Q311
D301 D302 D303 D304 D305 D306 D307 D308 D309 D310
MEASURED WITH A VTVM
TYPE I : (4.5V AC)
TYPE II : (0V AC)
S302, 303 FUNCTION
FM MW TAPE (RADIO OFF)
RV401
T401 T402 T403
D306 OPR/BATT
RV303 VOLUME
RV304 BALANCE
RV302 TONE
S304 TAPE SELECT
TYPE I (NORM)
TYPE II (CrO2)
S305 REC MUTE
ON
OFF
※2 R348 US, AEP model: UK model:
MIC901 — L —
MIC902 — R —
CNJ5
(BLU)
(RED)
RED BLK WHT

IC Q	302 301	307	IC303	306	IC304	IC302	304 305	311	309 310	202	102	101	201	IC301	303	308	IC401	IC Q
D	305 306	307	301 308	303 302	310	304	309	202 201	101,102	311	401							D

4-4. SCHEMATIC DIAGRAM — Radio Cassette Section —


A B C D E F G H I J K L M N O P Q R S T U V
1 2 3 4 5 6 7 8 9 10
[CONNECTOR BOARD]
[MAIN BOARD]
Q309,311 2SA1048-GR SWITCHING
Q310 2SC2458 SWITCHING
IC401 μPC1018C AM CIRCUIT
D401 1T22A AM DET
IC401 FM IF AMP
FM IF AMP
AM MIX
AM LOCAL OSC
AM IF AMP
AGC
L401 AM FERRITE-ROD ANT
T401 MW OSC
T402 IFT
T403 IF
CF401
ANT FM TEL ANT
CNP3
FM B+
TUNE CONT
DO OUT
GND
FM-R
FM-L
FM ANT
TO FM STEREO RECEIVER SECTION
FM TUNING VOLTAGE
S302-3 FUNCTION
FM MW TAPE (RADIO) OFF
S301-6 REC PB
MIC901 C-1006C
J301 EXT MIC
HRP PP227-3602D
MIC902 C-1006C
HE E8F5-36
J302 MIXING MIC
Q101,201 2SC1345 HEAD AMP
IC301 TA7328AP PREAMP
AUTOMATIC LEVEL CONTROL
S302-1 FUNCTION
S302-2 FUNCTION
S301-1, -3 REC PB
S301-2, -4
S304-1 TAPE SELECT
S304-2 TAPE SELECT
S304-3 TAPE SELECT
S304-4 TAPE SELECT
TYPE I (NORM) TYPE II (CrO2)
S305-1 REC MUTE
S305-2 REC MUTE
D311 1SS119
D101,102,201,202 1S1555
Q102,202 2SD1012 MUTING
IC302 LA4125 POWER AMP
RIPPLE FILTER
MUTING CIRCUIT
RV303-1 VOLUME
RV303-2 VOLUME
RV302-1 TONE
RV302-2 TONE
RV304 BALANCE
SP901 L-CH
SP902 R-CH
J303 PHONES
UK model F301 0.125A
US, AEP model R322 4.7(1/4W)
Q307 2SD773 REG
D305 RD6.2E-B2
D306 OPR/BATT
S303 FUNCTION
J304 DC IN 9V
DRY BATTERY SIZE "C" (IEC DESIGNATION R14) 6PCS, 9V DC
AM: 96mA FWD: 150mA FF: 190mA REW: 165mA REC: 210mA
S903 (POWER)
FF/REW FWD REC
M901 MOTOR
TAPE SPEED
S902 (AMS B+) FF/REW: ON
D306 SR505D
IC303 BA338 AMS
PRE-AMP
LEVEL COMPARATOR
REG
LEVEL COMPARATOR
OUTPUT DRIVE
S302-4 FUNCTION
D308 1SS119
D310 1SS119
D307 10E-2
PM901 AMS
Q306 2SD788 SOLENOID DRIVE
D301,302 1SS119
IC304 TC4069UBP SHUT OFF
D303,304 1SS119
DME-1 DM106A (END DET)
UK model R348 56(1W)
US, AEP model
REC BIAS OSC FREQUENCY
MEASURED WITH A VTVM
TYPE I: ⟪4.5V AC⟫ TYPE II: ⟪10V AC⟫
T301 BIAS OSC
REC BIAS
Q301 2SC1345 MIXING AMP
Q302 2SC2458 MUTING
S301-5 REC/PB
Q304 2SC1364-B REC BIAS OSC
D309 RD6.8E-B1
Q305 2SA1048-GR REC BIAS OSC SWITCH
Q303,308 2SC2458 SWITCHING

Note:

- Components for right channel have same values as for left channel. Reference numbers are coded from 200.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- : fusible resistor.
- ☐ : panel designation.
- ☐ : adjustment for repair.
- —— : B+ bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50kΩ/V).
  ( ) : FM
  < > : AM
  (( )) : FF/REW
  ≪ ≫ : REC
  no mark: FWD
- Voltage variations may be noted due to normal production tolerances.

- Switch

Ref. No.	Switch	Position
S301	PB/REC	PB
S302	FUNCTION	FM
S303	FUNCTION	FM
S304	TAPE SELECT	TYPE I (NORM)
S305	REC MUTE	OFF
S902	AMS B+	OFF
S903	POWER	OFF

- Mode

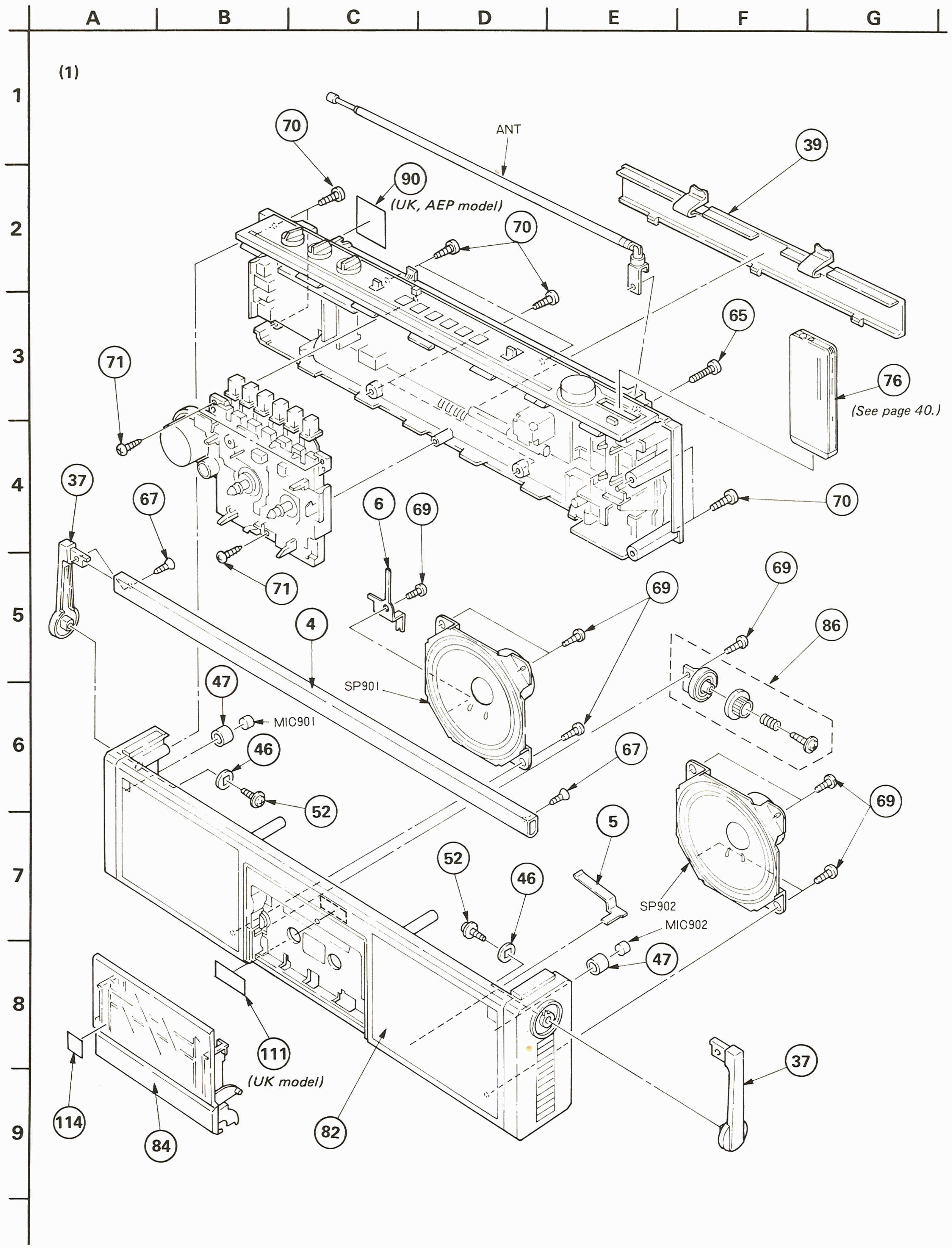
FWD:	forward
FF:	fast forward
REW:	rewind
REC:	record
PB:	playback

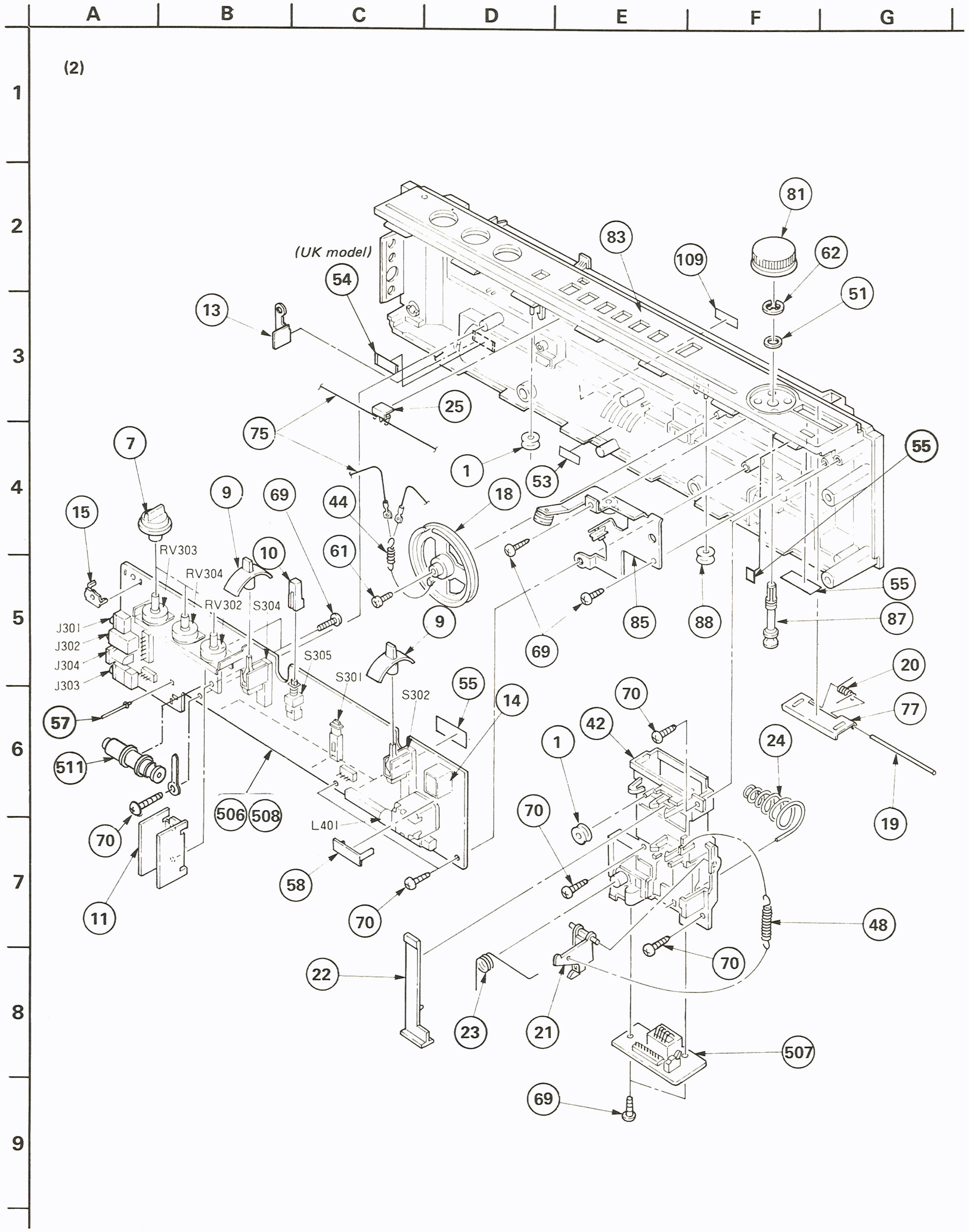
- ➡ : signal path

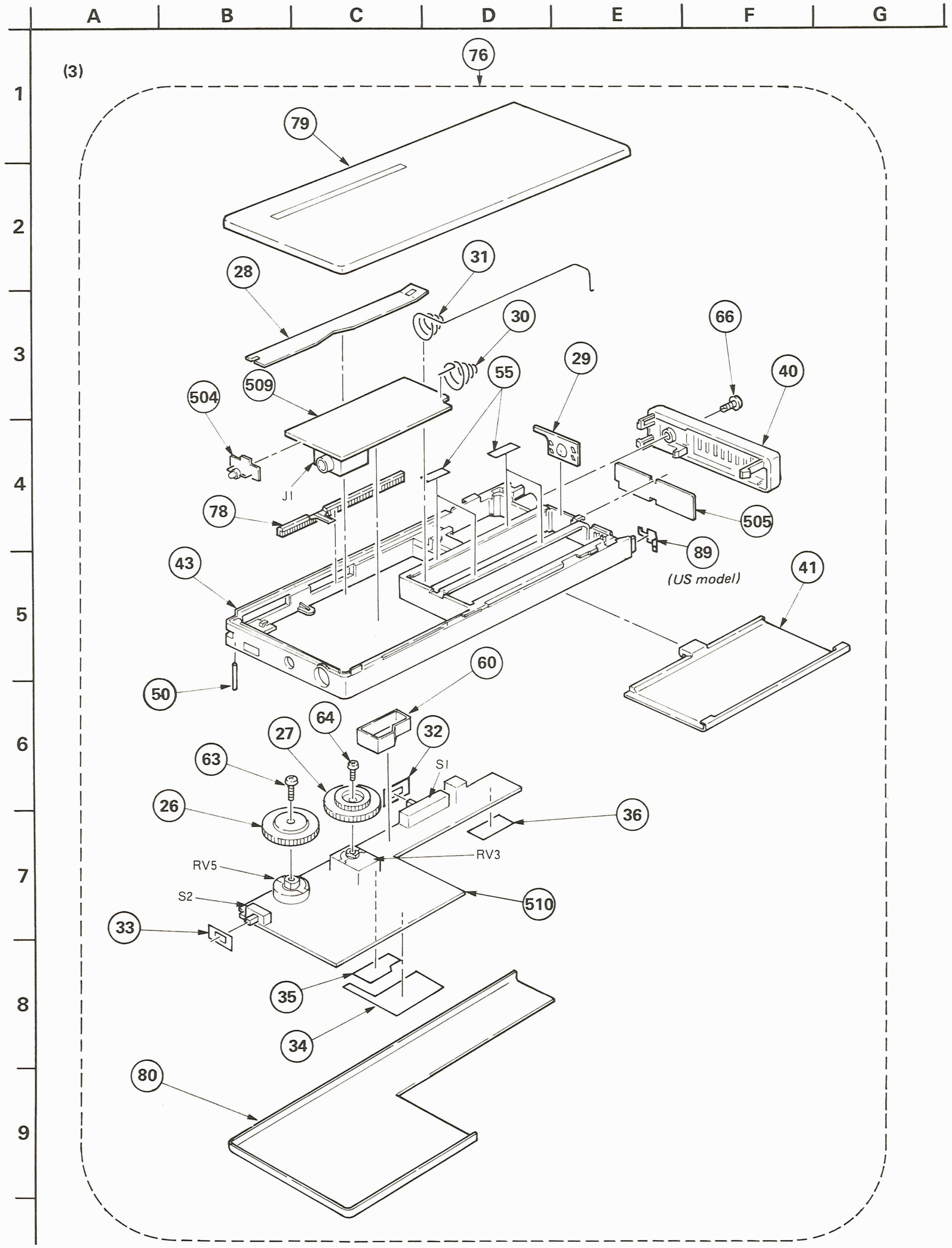
Note: Voltages are measured with a VOM (50kΩ/V).

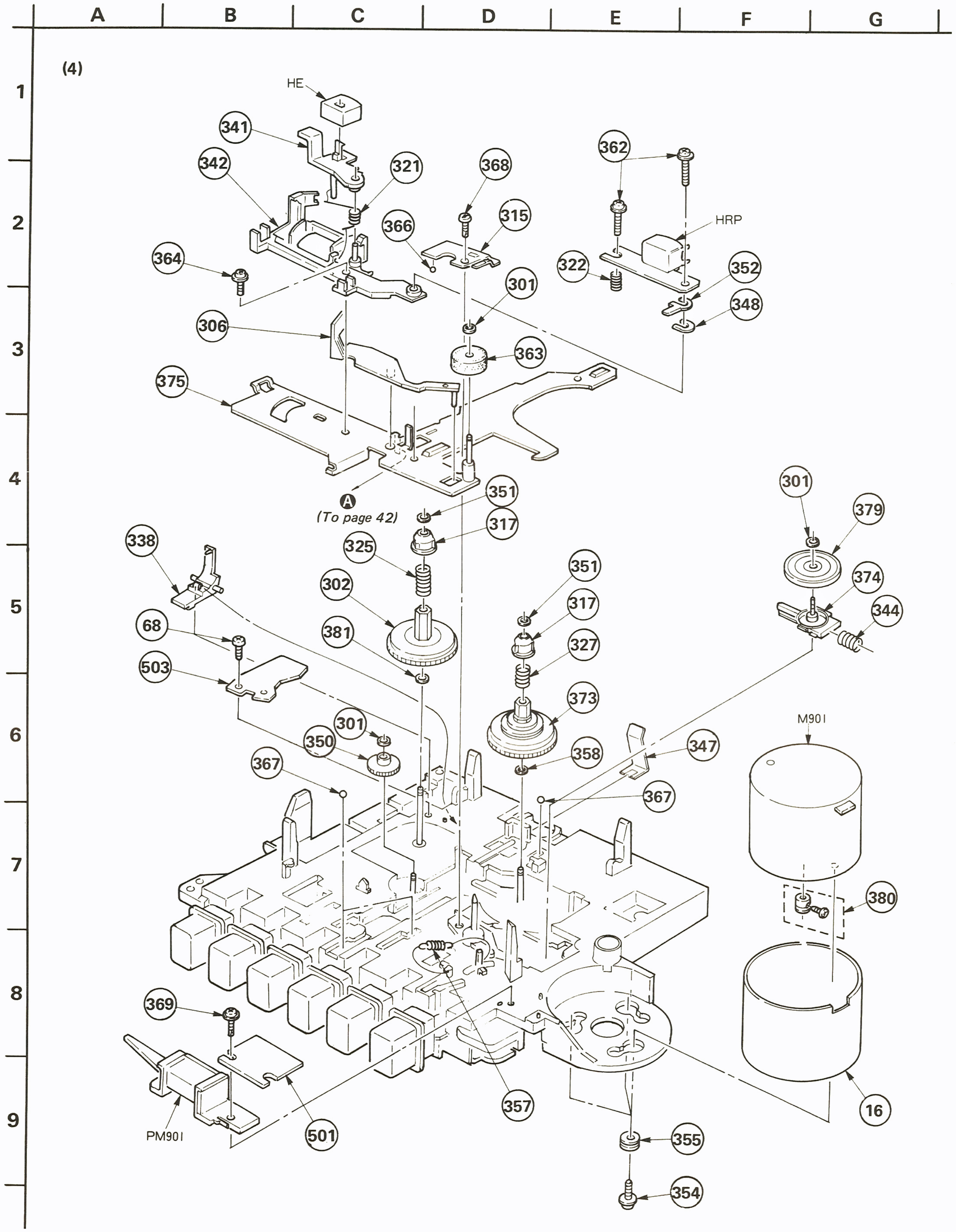
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

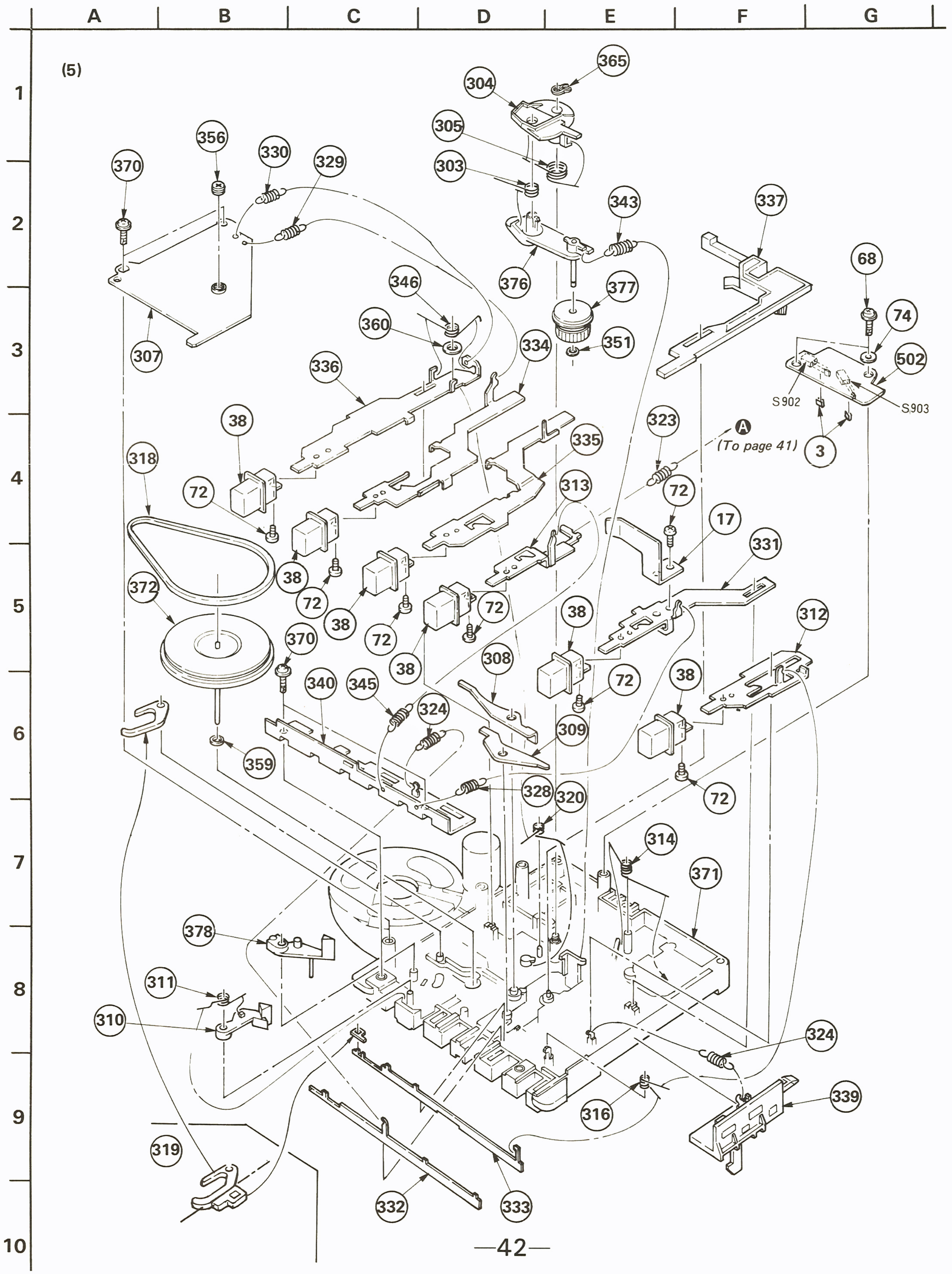
SECTION 5
EXPLODED VIEWS AND PARTS LIST


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
(1)
70
ANT
39
90
(UK, AEP model)
70
65
76
(See page 40.)
71
37
67
6
69
70
71
4
69
69
86
SP901
47
MIC901
46
52
67
5
69
52
46
SP902
MIC902
47
37
111
(UK model)
114
84
82


A
B
C
D
E
F
G
(2)
(UK model)
RV303
RV304
RV302
S304
J301
J302
J304
J303
S305
S301
S302
L401


A
B
C
D
E
F
G
(3)
J1
(US model)
S1
RV3
RV5
S2


A
B
C
D
E
F
G
(4)
HE
HRP
A (To page 42)
M901
PM901


A
B
C
D
E
F
G
(5)
S902
S903
A (To page 41)

GENERAL SECTION

No.	Part No.	Description
1	3-304-109-00	PULLEY
2	....	
3	9-911-815-01	CUSHION
4	3-314-117-31	HANDLE
5	3-314-603-00	SPRING
6	3-314-607-00	TERMINAL BOARD (A), GROUND
7	3-314-608-00	KNOB, CONTROL
8	....	
9	3-314-610-00	KNOB
10	3-314-611-00	BUTTON, REC MUTE
11	♠;3-314-612-00	HEAT SINK
12	....	
13	3-314-614-00	TERMINAL BOARD, BATTERY
14	♠;3-314-615-00	PLATE, SHIELD
15	♠;3-314-616-00	TERMINAL BOARD (B), GROUND
16	3-314-618-00	PLATE, SHIELD, MOTOR
17	3-314-619-00	SPRING
18	3-314-624-00	DRUM, DIAL
19	♠;3-314-629-00	SHAFT
20	3-314-630-00	SPRING, TORSION
21	♠;3-314-631-00	ARM, RADIO LOCK
22	3-314-632-00	BUTTON, RELEASE
23	3-314-633-00	SPRING, TORSION
24	3-314-634-00	SPRING
25	3-314-635-00	POINTER
26	3-314-638-00	KNOB (R), CONTROL
27	3-314-639-00	KNOB (R), TUNING
28	♠;3-314-641-00	PLATE, BACK
29	3-314-643-00	TERMINAL BOARD (R), BATTERY
30	3-314-644-00	SPRING (R) (A)
31	3-314-645-00	SPRING (R) (B)
32	♠;3-314-649-00	COVER (A), SWITCH
33	♠;3-314-650-00	COVER (B), SWITCH
34	3-314-651-00	PLATE (A), SHIELD
35	3-314-652-00	PLATE (B), SHIELD
36	3-314-653-00	PLATE (C), SHIELD
37	3-314-657-00	PLATE, SIDE, HANDLE
38	3-314-658-00	BUTTON, MD
39	3-314-660-11	LID, BATTERY CASE
40	3-314-661-00	CABINET (BOTTOM)
41	3-314-662-00	LID (R), BATTERY CASE
42	3-314-666-00	HOLDER, RADIO
43	3-314-672-01	(AEP,UK)...CHASSIS (R)
43	3-314-672-11	(US).......CHASSIS (R)
44	3-465-159-XX	SPRING, TENSION
45	....	

GENERAL SECTION

No.	Part No.	Description
46	3-552-410-00	WASHER
47	3-572-119-00	CUSHION, MICROPHONE
48	4-812-499-XX	SPRING (A), ANTENNA SWITCH
49	....	
50	3-669-481-06	PIN (DIA.1X6), PARALLEL
51	3-701-445-21	WASHER, 7
52	3-703-135-00	SCREW, TAPPING
53	3-701-030-00	LABEL, SERIAL NUMBER
54	3-701-948-06	(UK)...LABEL, FUSE
55	3-831-441-XX	CUSHION
56	....	
57	♠;3-847-723-00	PIN, LEAD
58	♠;3-884-935-00	PLATE (A), SHIELD
59	....	
60	♠;3-314-680-00	PLATE (E), SHIELD
61	7-621-255-35	SCREW +P 2X5
62	7-624-109-04	STOP RING 5.0, TYPE -E
63	7-627-551-68	SCREW, PRECISION +P 1.4X3.5
64	7-627-552-78	SCREW, PRECISION +P 1.7X3.5
65	7-682-551-04	SCREW +B 3X14
66	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT
67	7-685-346-24	SCREW +RKTP 3X8 TYPE2 SLIT
68	7-685-533-11	SCREW +BTP 2.6X6 TYPE2 N-S
69	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S
70	7-685-648-11	SCREW +BVTP 3X12 TYPE2 N-S
71	7-685-649-14	SCREW +BVTP 3X14 TYPE2 N-S
72	7-685-791-01	SCREW +PTT 2.6X5 (S)
73	....	
74	7-688-003-11	W 3, MIDDLE
75	9-911-825-42	STRING, DIAL
76	♠;A-3211-099-A	(US)....PACK ASSY, FM TUNER
76	♠;A-3211-101-A	(UK)....PACK ASSY, FM TUNER
76	♠;A-3211-103-A	(AEP)...PACK ASSY, FM TUNER
77	A-3239-096-A	LID ASSY
78	A-3239-097-A	POINTER (R) ASSY
79	A-3243-100-A	PANEL ASSY, FRONT
80	A-3243-101-A	(US)....PANEL ASSY, REAR
80	A-3243-111-A	(UK)....PANEL ASSY, REAR
80	A-3243-112-A	(AEP)...PANEL ASSY, REAR
81	A-3251-057-A	KNOB ASSY, TUNING
82	X-3314-607-1	CABINET (FRONT) ASSY
83	X-3314-605-1	(US)....CABINET (REAR) SUB ASSY
83	X-3314-610-1	(AEP)...CABINET (REAR) SUB ASSY
83	X-3314-611-1	(UK)....CABINET (REAR) SUB ASSY
84	X-3314-604-1	HOLDER ASSY, CASSETTE
85	♠;X-3314-601-0	BRACKET ASSY, PULLEY

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- Items marked " ♠ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

GENERAL SECTIONL

No.	Part No.	Description
86	X-3572-101-0	EJECT ASSY, SOFT
87	3-314-625-00	SHAFT, TUNING
88	3-817-114-00	PULLEY P8
89	♠;3-314-681-00	(US)...PLATE (T), SHIELD
90	3-314-682-00	(UK)....LABEL, MODEL NUMBER (UK)
90	3-314-683-00	(AEP)...LABEL, MODEL NUMBER (AEP)

ACCESSORY & PACKING MATERIAL

No.	Part No.	Description
101	⚠.1-463-431-00	(UK)....ADAPTOR, AC (AC-230A)
101	⚠.1-463-432-00	(AEP)...ADAPTOR, AC (AC-230A)
101	⚠.1-463-487-00	(US)....ADAPTOR, AC (AC-190)
102	....	
103	3-314-673-00	SHEET, PROTECTION, TUNER PACK
104	3-314-674-00	SHEET, PROTECTION, ADAPTER
105	3-314-684-00	(UK).......SLEEVE, ADAPTOR
105	3-314-675-00	(US,AEP)...SLEEVE, ADAPTER
106	3-314-676-00	INDIVIDUAL CARTON
107	3-314-677-00	CUSHION (LEFT)
108	3-314-678-00	CUSHION (RIGHT)
109	3-527-213-00	(AEP,UK)....LABEL, SERIAL NUMBER
109	3-701-999-00	(US)........LABEL, SERIAL NUMBER
110	3-533-397-00	BAG, POLYETHYLENE
111	3-701-690-00	(UK)....LABEL (MADE IN JAPAN)
112	....	
113	3-701-632-00	BAG, POLYETHYLENE
114	3-703-707-01	STICKER, SONY SYMBOL (21)
115	3-773-487-11	(AEP,UK)....MANUAL, INSTRUCTION
115	3-773-487-21	(US)........MANUAL, INSTRUCTION
115	3-773-487-41	(AEP).......MANUAL, INSTRUCTION
116	3-793-828-11	QUESTIONNAIRE
117	8-951-168-90	MDR-E232 SET
118	1-528-065-00	BATTERY, MANGANESE (UM-4)

MECHANISM SECTION

No.	Part No.	Description
301	3-307-948-01	WASHER, NYLON
302	3-313-305-00	TABLE, REEL, SUPPLY
303	3-313-313-00	SPRING
304	3-313-314-00	LEVER (SI), FR
305	3-313-315-00	SPRING
306	3-313-316-00	PULLEY
307	♠;3-313-319-00	RETAINER, FLY
308	♠;3-313-320-00	LEVER, RCP
309	♠;3-313-321-00	LEVER, PREVENTION, RFR
310	3-313-322-00	LEVER (A), S.OFF
311	3-313-323-00	SPRING
312	♠;3-313-325-00	LEVER, STOP BUTTON
313	♠;3-313-326-00	LEVER, FWD BUTTON
314	3-313-327-00	SPRING
315	3-313-328-00	SPRING
316	3-313-331-00	SPRING
317	3-313-333-00	CLAW, REEL
318	3-313-335-00	BELT, CAPSTAN
319	♠;3-313-337-00	CHIP, JOINT, S.OFF
320	3-313-338-00	SPRING
321	3-313-339-00	SPRING
322	3-313-340-00	SPRING, COMPRESSION
323	3-313-342-00	SPRING, TENSION
324	3-313-343-00	SPRING, TENSION
325	3-313-344-00	SPRING, COMPRESSION
326	....	
327	3-313-345-00	SPRING, COMPRESSION
328	3-313-346-00	SPRING, TENSION
329	3-313-348-00	SPRING, TENSION
330	3-313-349-00	SPRING, TENSION
331	3-313-350-00	LEVER, REC BUTTON
332	♠;3-313-351-00	PLATE (A), LOCK
333	♠;3-313-352-00	PLATE (B), LOCK
334	♠;3-313-353-00	LEVER, FF BUTTON
335	♠;3-313-354-00	LEVER, REW BUTTON
336	♠;3-313-355-00	LEVER, PAUSE BUTTON
337	3-313-356-00	BRAKE
338	3-313-357-00	CLAW, REC PREVENTION
339	3-313-358-00	CLAW, EJECT
340	♠;3-313-359-00	RETAINER, LEVER
341	3-313-361-00	ARM, ERASE HEAD
342	3-313-362-00	BRACKET, HEAD
343	3-313-365-00	SPRING, TENSION
344	3-313-366-00	SPRING, COMPRESSION
345	3-313-369-00	SPRING, TENSION

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CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

MECHANISM SECTION

No.	Part No.	Description
346	3-313-901-00	SPRING
347	3-313-902-00	SPRING
348	3-513-237-01	PLATE
349	....	
350	3-558-620-11	GEAR, REWIND
351	3-558-708-01	WASHER, STOPPER
352	3-558-737-11	SHIM, RP HEAD
352	3-558-737-21	SHIM, RP HEAD
353	....	
354	3-570-027-00	SCREW, MOTOR
355	3-570-118-00	CUSHION, MOTOR
356	3-570-205-00	SCREW, THRUST
357	3-573-468-00	SPRING, TENSION
358	3-701-437-11	WASHER
381	3-701-437-21	WASHER
359	3-701-438-21	WASHER
360	3-701-440-21	WASHER, 3.5
361	....	
362	3-701-465-00	SCREW, LOCK
363	3-703-597-41	PINCH ROLLER, STANDARD
364	7-621-955-35	SCREW, TOTSU PWH 2X5
365	7-624-193-08	STOP RING 3, GRIP
366	7-671-111-01	STEEL BALL 1MM
367	7-671-112-11	BALL, STEEL
368	7-687-134-21	SCREW, TOTSU PTP 2.6X8 TYPE2
369	7-687-205-11	TOTSU PTPWH 2X8, TYPE2, SLIT
370	7-687-234-21	SCREW, TOTSU PTPWH 2.6X8, TYPE2
371	A-3102-051-A	CHASSIS ASSY, MECHANICAL
372	A-3109-021-A	FLYWHEEL ASSY
373	A-3130-031-A	TABLE ASSY, REEL, TAKE-UP
374	X-3313-301-0	BRACKET ASSY, T PULLEY
375	X-3313-303-0	CHASSIS ASSY, HEAD
376	X-3313-304-0	ARM ASSY, REW
377	X-3313-305-0	IDLER ASSY, FR
378	X-3313-306-0	LEVER (B) ASSY, SHUT-OFF
379	X-3313-307-0	PULLEY ASSY, FWD
380	X-3313-308-1	PULLEY ASSY, MOTOR
381	3-701-437-21	WASHER

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
501	💧;1-602-735-00	PC BOARD			
502	💧;1-609-703-00	PC BOARD, LEAF SWITCH			
503	💧;1-609-704-00	PC BOARD, SDME			
504	💧;1-610-269-00	PC BOARD, LED			
505	1-610-271-00	PC BOARD, CONTACT TERMINAL			
506	💧;1-610-349-00	PC BOARD, MAIN			
507	💧;1-610-435-00	PC BOARD, CONNECTOR			
508	💧;A-3260-185-A	(US,AEP)...MOUNTED PCB, MAIN			
508	💧;A-3260-199-A	(UK).......MOUNTED PCB, MAIN			
509	💧;1-610-270-00	PC BOARD, HEADPHONE			
510	💧;A-3266-201-A	(US)........MOUNTED PCB, RADIO			
510	💧;A-3266-221-A	(AEP,UK)....MOUNTED PCB, RADIO			
511	1-533-102-XX	(UK)........HOLDER, FUSE			
ANT	1-501-262-21	ANTENNA, TELESCOPIC			
C1	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C2	1-163-118-00	CERAMIC CHIP	110PF	5%	50V
C3	1-163-108-00	CERAMIC CHIP	43PF	5%	50V
C4	1-163-003-00	CERAMIC CHIP	330PF	10%	50V
C5	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C6	1-163-088-00	CERAMIC CHIP	5PF	0.25PF	50V
C7	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C8	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C9	1-162-004-00	CERAMIC	1.8PF	20%	50V
C10	1-163-065-00	CERAMIC CHIP	0.001MF		50V
C11	1-163-084-00	CERAMIC CHIP	1.5PF	0.25PF	50V
C12	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C13	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C14	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C15	1-161-013-00	CERAMIC	0.01MF	10%	25V
C16	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C17	1-161-013-00	CERAMIC	0.01MF	10%	25V
C18	1-124-435-00	ELECT	10MF	20%	6.3V
C19	1-163-001-00	CERAMIC CHIP	220PF	10%	50V
C20	1-124-437-00	ELECT	2.2MF	20%	35V
C21	1-124-438-00	ELECT	1MF	20%	50V
C22	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V
C23	1-124-438-00	ELECT	1MF	20%	50V
C24	1-163-024-00	CERAMIC CHIP	0.018MF	10%	50V
C25	1-163-063-00	(US)...CERAMIC CHIP	0.022MF	10%	50V
C25	1-163-073-00	(AEP,UK)...CERAMIC CHIP	0.022MF		50V
C26	1-124-438-00	ELECT	1MF	20%	50V
C27	1-124-436-00	ELECT	3.3MF	20%	25V
C28	1-124-438-00	ELECT	1MF	20%	50V
C29	1-163-569-00	CERAMIC CHIP	0.001MF	5%	50V
C30	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C31	1-124-433-00	ELECT	100MF	20%	4V
C32	1-161-013-00	CERAMIC	0.01MF	10%	25V

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MF:μF, PF:μμF.

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- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C33	1-124-435-00	ELECT	10MF	20%	6.3V
C34	1-131-404-00	TANTALUM	0.22MF	20%	35V
C35	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C36	1-163-582-00	CERAMIC CHIP	10PF	5%	50V
C37	1-163-579-00	CERAMIC CHIP	7PF	0.25PF	50V
C38	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C39	1-124-436-00	ELECT	3.3MF	20%	25V
C40	1-131-412-00	TANTALUM	0.47MF	20%	20V
C41	1-131-420-00	TANTALUM	4.7MF	20%	10V
C42	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C43	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C44	1-124-431-00	ELECT	33MF	20%	4V
C45	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C46	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C47	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C48	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C49	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C50	1-131-418-00	TANTALUM	1MF	20%	10V
C51	1-124-432-00	ELECT	47MF	20%	4V
C52	1-124-430-00	ELECT	22MF	20%	4V
C53	1-124-435-00	ELECT	10MF	20%	6.3V
C54	1-124-430-00	ELECT	22MF	20%	4V
C55	1-131-412-00	TANTALUM	0.47MF	20%	20V
C56	1-131-412-00	TANTALUM	0.47MF	20%	20V
C57	1-124-434-00	ELECT	220MF	20%	4V
C58	1-131-391-00	TANTALUM	22MF	20%	3.15V
C59	1-124-438-00	ELECT	1MF	20%	50V
C61	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C62	1-124-433-00	ELECT	100MF	20%	4V
C63	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C64	1-163-025-00	CERAMIC CHIP	0.001MF		50V
C65	1-163-031-00	CERAMIC CHIP	0.01MF		50V
C68	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C69	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C101	1-123-351-00	ELECT	0.47MF	20%	50V
C102	1-161-019-00	CERAMIC	0.033MF	10%	25V
C103	1-123-612-00	ELECT	2.2MF	20%	50V
C104	1-102-116-00	CERAMIC	680PF	10%	50V
C105	1-101-001-00	CERAMIC	0.001MF		50V
C106	1-123-616-00	ELECT	4.7MF	20%	25V
C107	1-131-398-00	ELECT(SOLID)	0.22MF	10%	16V
C108	1-101-001-00	CERAMIC	0.001MF		50V
C109	1-123-317-00	ELECT	22MF	20%	16V
C110	1-101-880-00	CERAMIC	47PF	5%	50V
C111	1-102-074-00	CERAMIC	0.001MF	10%	50V
C112	1-161-039-00	CERAMIC	0.001MF	10%	25V
C113	1-123-616-00	ELECT	4.7MF	20%	25V
C114	1-123-611-00	ELECT	1MF	20%	50V
C115	1-123-328-00	ELECT	4.7MF	20%	25V
C116	1-161-021-00	CERAMIC	0.047MF	10%	25V
C117	1-123-328-00	ELECT	4.7MF	20%	25V
C118	1-101-001-00	CERAMIC	0.001MF		50V
C119	1-123-318-00	ELECT	33MF	20%	16V
C120	1-102-947-00	CERAMIC	10PF	5%	50V
C121	1-123-320-00	ELECT	100MF	20%	16V
C122	1-161-773-00	CERAMIC	0.1MF	20%	25V
C123	1-123-310-00	ELECT	470MF	20%	10V
C127	1-102-115-00	CERAMIC	560PF	10%	50V
C128	1-161-020-00	CERAMIC	0.039MF	10%	25V
C129	1-102-975-00	CERAMIC	100PF	10%	50V
C129	1-162-037-00	CERAMIC	100PF	5%	50V
C130	1-102-115-00	CERAMIC	560PF	10%	50V
C131	1-102-975-00	CERAMIC	100PF	10%	50V
C132	1-161-773-00	CERAMIC	0.1MF	20%	25V
C201	1-123-351-00	ELECT	0.47MF	20%	50V
C202	1-161-019-00	CERAMIC	0.033MF	10%	25V
C203	1-123-612-00	ELECT	2.2MF	20%	50V
C204	1-102-116-00	CERAMIC	680PF	10%	50V
C205	1-101-001-00	CERAMIC	0.001MF		50V
C206	1-123-616-00	ELECT	4.7MF	20%	25V
C207	1-131-398-00	ELECT(SOLID)	0.22MF	10%	16V
C208	1-101-001-00	CERAMIC	0.001MF		50V
C209	1-123-622-00	ELECT	22MF	20%	16V
C210	1-101-880-00	CERAMIC	47PF	5%	50V
C211	1-101-001-00	CERAMIC	0.001MF		50V
C212	1-161-039-00	CERAMIC	0.001MF	10%	25V
C213	1-123-616-00	ELECT	4.7MF	20%	25V
C214	1-123-380-00	ELECT	1MF	20%	50V
C215	1-123-616-00	ELECT	4.7MF	20%	25V
C216	1-161-021-00	CERAMIC	0.047MF	10%	25V
C217	1-123-328-00	ELECT	4.7MF	20%	25V
C218	1-101-001-00	CERAMIC	0.001MF		50V
C219	1-123-318-00	ELECT	33MF	20%	16V
C220	1-102-947-00	CERAMIC	10PF	5%	50V
C221	1-123-320-00	ELECT	100MF	20%	16V
C222	1-161-773-00	CERAMIC	0.1MF	20%	25V
C223	1-123-310-00	ELECT	470MF	20%	10V
C227	1-102-115-00	CERAMIC	560PF	10%	50V
C228	1-161-020-00	CERAMIC	0.039MF	10%	25V
C229	1-102-975-00	CERAMIC	100PF	10%	50V
C230	1-102-115-00	CERAMIC	560PF	10%	50V

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C231	1-102-975-00	CERAMIC	100PF	10%	50V
C232	1-161-773-00	CERAMIC	0.1MF	20%	25V
C301	1-123-380-00	ELECT	1MF	20%	50V
C302	1-101-001-00	CERAMIC	0.001MF		50V
C303	1-123-328-00	ELECT	4.7MF	20%	25V
C304	1-123-822-00	ELECT	47MF	20%	10V
C305	1-123-356-00	ELECT	10MF	20%	16V
C306	1-123-298-00	ELECT	470MF	20%	6.3V
C307	1-123-295-00	ELECT	100MF	20%	6.3V
C308	1-123-622-00	ELECT	22MF	20%	16V
C309	1-108-573-00	MYLAR	0.0056MF	5%	50V
C310	1-123-306-00	ELECT	47MF	20%	10V
C311	1-161-003-00	CERAMIC	0.0015MF	10%	25V
C312	1-123-320-00	ELECT	100MF	20%	16V
C313	1-101-001-00	CERAMIC	0.001MF		50V
C314	1-161-021-00	CERAMIC	0.047MF	10%	25V
C315	1-123-353-00	ELECT	2.2MF	20%	50V
C316	1-108-603-00	MYLAR	0.1MF	5%	50V
C317	1-123-380-00	ELECT	1MF	20%	50V
C318	1-123-317-00	ELECT	22MF	20%	16V
C319	1-123-353-00	ELECT	2.2MF	20%	50V
C320	1-123-306-00	ELECT	47MF	20%	10V
C321	1-123-298-00	ELECT	470MF	20%	6.3V
C322	1-123-310-00	ELECT	470MF	20%	10V
C323	1-123-306-00	ELECT	47MF	20%	10V
C324	1-123-380-00	ELECT	1MF	20%	50V
C325	1-123-317-00	ELECT	22MF	20%	16V
C326	1-123-354-00	ELECT	3.3MF	20%	50V
C327	1-123-326-00	ELECT	3300MF	20%	16V
C328	1-123-320-00	ELECT	100MF	20%	16V
C329	1-161-773-00	CERAMIC	0.1MF	20%	25V
C330	1-101-004-00	CERAMIC	0.01MF		50V
C331	1-123-622-00	ELECT	22MF	20%	16V
C332	1-101-001-00	CERAMIC	0.001MF		50V
C333	1-102-975-00	CERAMIC	100PF	10%	50V
C334	1-102-975-00	CERAMIC	100PF	10%	50V
C401	1-131-423-00	TANTALUM	6.8MF	20%	6.3V
C402	1-161-330-00	CERAMIC	0.01MF	30%	25V
C403	1-161-276-00	CERAMIC	5.6PF	10%	50V
C404	1-123-306-00	ELECT	47MF	20%	10V
C405	1-101-004-00	CERAMIC	0.01MF		50V
C406	1-123-307-00	ELECT	100MF	20%	10V
C407	1-101-004-00	CERAMIC	0.01MF		50V
C408	1-123-306-00	ELECT	47MF	20%	10V
C409	1-101-004-00	CERAMIC	0.01MF		50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C410	1-101-004-00	CERAMIC	0.01MF		50V
C411	1-123-351-00	ELECT	0.47MF	20%	50V
C412	1-102-112-00	CERAMIC	330PF	10%	50V
CF1	1-527-795-71	FILTER, CERAMIC			
CF2	1-527-795-71	FILTER, CERAMIC			
CF401	1-527-870-00	FILTER			
CNJ3	●;1-561-675-00	SOCKET, CONNECTOR 5P			
CNP1	●;1-560-635-00	PIN, CONNECTOR 4P			
CNP2	●;1-560-563-00	PIN, CONNECTOR 10P			
CNP3	●;1-560-558-00	PIN, CONNECTOR 5P			
CNP4	●;1-560-563-00	PIN, CONNECTOR 10P			
CNP5	●;1-560-557-00	PIN, CONNECTOR 4P			
CNP901	1-536-795-00	TERMINAL BOARD			
CT1	1-141-287-00	CAP, TRIMMER (CHIP)			
CT2	1-141-272-00	CAP, TRIMMER			
CT3	1-151-448-00	CAP, VAR, POLYETHYLENE			
CT4	1-151-448-00	CAP, VAR, POLYETHYLENE			
CV1	1-151-448-00	CAP, VAR, POLYETHYLENE			
CV2	1-151-448-00	CAP, VAR, POLYETHYLENE			
D1	8-719-800-41	DIODE 1SV147-S1			
D2	8-719-800-41	DIODE 1SV147-S1			
D3	8-719-101-06	DIODE SR106D			
D4	8-719-815-55	DIODE 1S1555			
D5	8-719-100-44	DIODE RD7.5EB2			
D6	8-719-101-23	DIODE 1SS123			
D101	8-719-815-55	DIODE 1S1555			
D102	8-719-815-55	DIODE 1S1555			
D201	8-719-815-55	DIODE 1S1555			
D202	8-719-815-55	DIODE 1S1555			
D301	8-719-911-19	DIODE 1SS119			
D302	8-719-911-19	DIODE 1SS119			
D303	8-719-911-19	DIODE 1SS119			
D304	8-719-911-19	DIODE 1SS119			
D305	8-719-100-38	DIODE RD6.2EB2			
D306	8-719-150-53	DIODE SR505D			
D307	8-719-200-02	DIODE 10E-2			
D308	8-719-911-19	DIODE 1SS119			
D309	8-719-100-40	DIODE RD6.8EB1			
D310	8-719-911-19	DIODE 1SS119			
D311	8-719-911-19	DIODE 1SS119			
D401	8-719-022-21	DIODE 1T22A			
DME1	8-749-016-01	DM-106A			
F301	⚠.1-532-611-00	(UK)....FUSE, TIME-LAG, 0.125A			250V

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MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
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COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA···: μA···, UPA···: μPA···, UPC···: μPC,
UPD···: μPD···

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
HE	8-658-096-02	HEAD, ERASE EBF5-36
HRP	8-825-507-60	HEAD (PP227-3602D)
IC1	8-759-902-00	IC TK10701F
IC2	8-759-201-57	IC TA7688F-S
IC301	8-759-273-28	IC TA7328AP
IC302	8-759-841-25	IC LA4125
IC303	8-759-905-47	IC BA338
IC304	8-759-240-69	IC TC4069UBP
IC401	8-759-110-15	IC UPC1018C
J1	1-507-812-00	JACK (HEADPHONES)
J301	1-507-834-21	JACK (EXT MIC)
J302	1-507-643-00	JACK (MIXING MIC)
J303	1-507-806-00	JACK (PHONES)
J304	1-507-459-00	JACK (DC IN 9V)
L1	1-426-128-00	TRANSFORMER, HF
L2	1-459-459-00	COIL (WITH CORE)
L3	1-425-991-00	COIL
L4	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L5	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L6	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L8	1-410-020-00	MICRO INDUCTOR (SMALL TYPE) 8.2UH
L301	1-408-111-00	INDUCTOR, MICRO, 3.3UH
L302	1-408-111-00	INDUCTOR, MICRO, 3.3UH
L401	1-402-034-00	ANTENNA, FERRITE-ROD
M901	1-541-231-00	MOTOR
MIC901	8-814-194-20	MICROPHONE (C-1006C)
MIC902	8-814-194-20	MICROPHONE (C-1006C)
PM901	1-454-255-00	SOLENOID, PLUNGER
Q1	8-729-178-63	TRANSISTOR 2SC2786-K
Q2	8-729-884-02	TRANSISTOR 2SC2840-D
Q3	8-729-178-62	TRANSISTOR 2SC2786-L
Q4	8-729-201-26	TRANSISTOR 2SC27150
Q6	8-729-245-83	TRANSISTOR 2SC2458
Q7	8-729-204-83	TRANSISTOR 2SA1048-GR
Q8	8-729-245-83	TRANSISTOR 2SC2458
Q101	8-729-334-58	TRANSISTOR 2SC1345
Q102	8-729-811-24	TRANSISTOR 2SD1012
Q201	8-729-334-58	TRANSISTOR 2SC1345
Q202	8-729-811-24	TRANSISTOR 2SD1012
Q301	8-729-334-58	TRANSISTOR 2SC1345
Q302	8-729-245-83	TRANSISTOR 2SC2458
Q303	8-729-245-83	TRANSISTOR 2SC2458
Q304	8-729-663-48	TRANSISTOR 2SC1364-8

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q305	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q306	8-729-378-84	TRANSISTOR 2SD788			
Q307	8-729-177-32	TRANSISTOR 2SD773			
Q308	8-729-245-83	TRANSISTOR 2SC2458			
Q309	8-729-204-83	TRANSISTOR 2SA1048-GR			
Q310	8-729-245-83	TRANSISTOR 2SC2458			
Q311	8-729-204-83	TRANSISTOR 2SA1048-GR			
R1	1-216-042-00	METAL CHIP	510	5%	1/10W
R2	1-216-097-00	METAL CHIP	100K	5%	1/10W
R3	1-216-097-00	METAL CHIP	100K	5%	1/10W
R4	1-216-090-91	METAL CHIP	51K	5%	1/10W
R5	1-247-807-00	CARBON	100	5%	1/6W
R6	1-247-807-00	CARBON	100	5%	1/6W
R7	1-216-094-00	METAL CHIP	75K	5%	1/10W
R8	1-216-037-00	METAL CHIP	330	5%	1/10W
R9	1-216-025-00	METAL CHIP	100	5%	1/10W
R10	1-216-025-00	METAL CHIP	100	5%	1/10W
R11	1-216-092-00	METAL CHIP	62K	5%	1/10W
R12	1-216-037-00	METAL CHIP	330	5%	1/10W
R13	1-216-174-91	METAL CHIP	100	5%	1/8W
R14	1-216-020-00	METAL CHIP	62	5%	1/10W
R15	1-216-037-00	METAL CHIP	330	5%	1/10W
R16	1-216-073-00	METAL CHIP	10K	5%	1/10W
R17	1-216-061-00	(US).......METAL CHIP	3.3K	5%	1/10W
R17	1-216-097-00	(AEP,UK)...METAL CHIP	100K	5%	1/10W
R18	1-247-831-00	CARBON	1K	5%	1/6W
R19	1-216-073-00	METAL CHIP	10K	5%	1/10W
R20	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R21	1-216-020-00	METAL CHIP	62	5%	1/10W
R22	1-216-049-00	METAL CHIP	1K	5%	1/10W
R24	1-216-066-00	METAL CHIP	5.1K	5%	1/10W
R25	1-216-097-00	METAL CHIP	100K	5%	1/10W
R26	1-216-105-00	METAL CHIP	220K	5%	1/10W
R27	1-216-009-00	METAL CHIP	22	5%	1/10W
R28	1-216-093-00	METAL CHIP	68K	5%	1/10W
R29	1-247-819-00	CARBON	330	5%	1/6W
R30	1-216-097-00	METAL CHIP	100K	5%	1/10W
R31	1-216-045-00	METAL CHIP	680	5%	1/10W
R32	1-216-090-91	METAL CHIP	51K	5%	1/10W
R33	1-216-090-91	METAL CHIP	51K	5%	1/10W
R34	1-216-106-00	METAL CHIP	240K	5%	1/10W
R35	1-216-097-00	METAL CHIP	100K	5%	1/10W
R36	1-216-049-00	METAL CHIP	1K	5%	1/10W
R37	1-216-206-91	METAL CHIP	2.2K	5%	1/8W
R38	1-216-206-91	METAL CHIP	2.2K	5%	1/8W

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ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R39	1-216-049-00	METAL CHIP	1K	5%	1/10W
R40	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R41	1-216-073-00	METAL CHIP	10K	5%	1/10W
R42	1-216-073-00	METAL CHIP	10K	5%	1/10W
R43	1-216-091-00	METAL CHIP	56K	5%	1/10W
R47	1-216-295-00	METAL CHIP	0	5%	1/10W
R49	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R50	1-216-106-00	METAL CHIP	240K	5%	1/10W
R101	1-247-807-00	CARBON	100	5%	1/6W
R102	1-247-847-00	CARBON	4.7K	5%	1/6W
R103	1-247-831-00	CARBON	1K	5%	1/6W
R104	1-247-838-00	CARBON	2K	5%	1/6W
R105	1-247-895-00	CARBON	470K	5%	1/6W
R106	1-247-855-00	CARBON	10K	5%	1/6W
R107	1-247-811-00	CARBON	150	5%	1/6W
R108	1-247-871-00	CARBON	47K	5%	1/6W
R109	1-247-815-00	CARBON	220	5%	1/6W
R110	1-247-819-00	CARBON	330	5%	1/6W
R111	1-247-871-00	CARBON	47K	5%	1/6W
R112	1-247-831-00	CARBON	1K	5%	1/6W
R113	1-247-839-00	CARBON	2.2K	5%	1/6W
R114	1-247-851-00	CARBON	6.8K	5%	1/6W
R115	1-247-817-00	CARBON	270	5%	1/6W
R116	1-247-883-00	CARBON	150K	5%	1/6W
R117	1-247-863-00	CARBON	22K	5%	1/6W
R118	1-247-873-00	CARBON	56K	5%	1/6W
R119	1-247-883-00	CARBON	150K	5%	1/6W
R120	1-247-831-00	CARBON	1K	5%	1/6W
R121	1-247-831-00	CARBON	1K	5%	1/6W
R122	1-247-869-00	CARBON	39K	5%	1/6W
R123	1-247-847-00	CARBON	4.7K	5%	1/6W
R124	1-247-879-00	CARBON	100K	5%	1/6W
R125	1-247-847-00	CARBON	4.7K	5%	1/6W
R126	1-247-855-00	CARBON	10K	5%	1/6W
R127	1-247-859-00	CARBON	15K	5%	1/6W
R128	1-247-808-00	CARBON	110	5%	1/6W
R129	1-247-847-00	CARBON	4.7K	5%	1/6W
R130	1-247-804-00	CARBON	75	5%	1/6W
R134	1-247-807-00	CARBON	100	5%	1/6W
R201	1-247-807-00	CARBON	100	5%	1/6W
R202	1-247-847-00	CARBON	4.7K	5%	1/6W
R203	1-247-831-00	CARBON	1K	5%	1/6W
R204	1-247-838-00	CARBON	2K	5%	1/6W
R205	1-247-895-00	CARBON	470K	5%	1/6W
R206	1-247-855-00	CARBON	10K	5%	1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R207	1-247-811-00	CARBON	150	5%	1/6W
R208	1-247-871-00	CARBON	47K	5%	1/6W
R209	1-247-815-00	CARBON	220	5%	1/6W
R210	1-247-819-00	CARBON	330	5%	1/6W
R211	1-247-871-00	CARBON	47K	5%	1/6W
R212	1-247-831-00	CARBON	1K	5%	1/6W
R213	1-247-839-00	CARBON	2.2K	5%	1/6W
R214	1-247-851-00	CARBON	6.8K	5%	1/6W
R215	1-247-817-00	CARBON	270	5%	1/6W
R216	1-247-883-00	CARBON	150K	5%	1/6W
R217	1-247-863-00	CARBON	22K	5%	1/6W
R218	1-247-873-00	CARBON	56K	5%	1/6W
R219	1-247-883-00	CARBON	150K	5%	1/6W
R220	1-247-831-00	CARBON	1K	5%	1/6W
R221	1-247-831-00	CARBON	1K	5%	1/6W
R222	1-247-869-00	CARBON	39K	5%	1/6W
R223	1-247-847-00	CARBON	4.7K	5%	1/6W
R224	1-247-879-00	CARBON	100K	5%	1/6W
R225	1-247-847-00	CARBON	4.7K	5%	1/6W
R226	1-247-855-00	CARBON	10K	5%	1/6W
R227	1-247-859-00	CARBON	15K	5%	1/6W
R228	1-247-808-00	CARBON	110	5%	1/6W
R229	1-247-847-00	CARBON	4.7K	5%	1/6W
R230	1-247-804-00	CARBON	75	5%	1/6W
R234	1-247-807-00	CARBON	100	5%	1/6W
R301	1-247-895-00	CARBON	470K	5%	1/6W
R302	1-247-811-00	CARBON	150	5%	1/6W
R303	1-247-855-00	CARBON	10K	5%	1/6W
R304	1-247-831-00	CARBON	1K	5%	1/6W
R305	1-247-847-00	CARBON	4.7K	5%	1/6W
R306	1-247-875-00	CARBON	68K	5%	1/6W
R307	1-247-831-00	CARBON	1K	5%	1/6W
R308	1-247-831-00	CARBON	1K	5%	1/6W
R309	1-247-793-00	CARBON	27	5%	1/6W
R310	1-247-831-00	CARBON	1K	5%	1/6W
R311	1-247-885-00	CARBON	180K	5%	1/6W
R312	1-247-859-00	CARBON	15K	5%	1/6W
R313	1-247-839-00	CARBON	2.2K	5%	1/6W
R314	1-247-881-00	CARBON	120K	5%	1/6W
R315	1-247-814-00	CARBON	200	5%	1/6W
R316	1-247-821-00	CARBON	390	5%	1/6W
R317	1-247-881-00	CARBON	120K	5%	1/6W
R318	1-247-903-00	CARBON	1M	5%	1/6W
R319	1-247-837-00	CARBON	1.8K	5%	1/6W
R320	1-247-839-00	CARBON	2.2K	5%	1/6W

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ELECTRICAL PARTS

Ref.No.	Part No.	Description
R321	1-247-815-00	CARBON 220 5% 1/6W
R322 ⚠.	1-212-849-00	(US,AEP)...FUSIBLE 4.7 5% 1/4W F
R323	1-247-831-00	CARBON 1K 5% 1/6W
R324	1-247-825-00	CARBON 560 5% 1/6W
R325	1-247-831-00	CARBON 1K 5% 1/6W
R326	1-247-879-00	CARBON 100K 5% 1/6W
R327	1-247-807-00	CARBON 100 5% 1/6W
R328	1-247-879-00	CARBON 100K 5% 1/6W
R329	1-247-871-00	CARBON 47K 5% 1/6W
R330	1-247-783-00	CARBON 10 5% 1/6W
R331	1-247-839-00	CARBON 2.2K 5% 1/6W
R332	1-247-879-00	CARBON 100K 5% 1/6W
R333	1-247-855-00	CARBON 10K 5% 1/6W
R334	1-247-847-00	CARBON 4.7K 5% 1/6W
R335	1-247-802-00	CARBON 62 5% 1/6W
R336	1-247-847-00	CARBON 4.7K 5% 1/6W
R337	1-247-859-00	CARBON 15K 5% 1/6W
R338	1-247-879-00	CARBON 100K 5% 1/6W
R339	1-247-847-00	CARBON 4.7K 5% 1/6W
R340	1-247-831-00	CARBON 1K 5% 1/6W
R341	1-247-847-00	CARBON 4.7K 5% 1/6W
R342	1-247-847-00	CARBON 4.7K 5% 1/6W
R343	1-247-847-00	CARBON 4.7K 5% 1/6W
R344	1-247-791-00	CARBON 22 5% 1/6W
R345	1-247-867-00	CARBON 33K 5% 1/6W
R346	1-247-807-00	CARBON 100 5% 1/6W
R347	1-247-807-00	CARBON 100 5% 1/6W
R348 ⚠.	1-213-078-00	(UK).......FUSIBLE 56 5% 1W F
R348	1-247-801-00	(US,AEP)...CARBON 56 5% 1/6W
R349	1-247-855-00	CARBON 10K 5% 1/6W
R350	1-247-807-00	CARBON 100 5% 1/6W
R351	1-247-807-00	CARBON 100 5% 1/6W
R401	1-247-855-00	CARBON 10K 5% 1/6W
R402	1-247-871-00	CARBON 47K 5% 1/6W
R403	1-247-805-00	CARBON 82 5% 1/6W
R404	1-247-855-00	CARBON 10K 5% 1/6W
R405	1-247-831-00	CARBON 1K 5% 1/6W
R406	1-247-849-00	CARBON 5.6K 5% 1/6W
R407	1-247-831-00	CARBON 1K 5% 1/6W
R408	1-247-869-00	CARBON 39K 5% 1/6W
R409	1-247-817-00	CARBON 270 5% 1/6W
R410	1-247-865-00	CARBON 27K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
RV1	1-226-488-00	RES, ADJ, METAL GLAZE 5K
RV2	1-226-784-00	RES, ADJ, METAL GLAZE 100K
RV3	1-230-195-00	RES, VAR, CARBON 100K (TUNING)
RV4	1-226-784-00	RES, ADJ, METAL GLAZE 100K
RV5	1-230-109-00	RES, VAR, CARBON 20K/20K
RV301	1-226-232-00	RES, ADJ, CARBON 500
RV302	1-230-110-00	RES, VAR, CARBON (BLOCK TYPE)(TONE)
RV303	1-230-110-00	RES, VAR, CARBON (BLOCK TYPE)(VOLUME)
RV304	1-230-110-00	RES, VAR, CARBON (BLOCK TYPE)(BALANCE)
RV401	1-226-239-00	RES, ADJ, CARBON 100K
RV402	1-151-448-00	CAP, VAR, POLYETHYLENE
S1	1-554-515-00	SWITCH, SLIDE
S2	1-554-514-00	SWITCH, SLIDE
S301	1-554-516-00	SWITCH, SLIDE
S302	1-554-518-00	SWITCH, LEVER SLIDE (FUNCTION)
S304	1-554-517-00	SWITCH, LEVER SLIDE (TAPE SELECT)
S305	1-554-491-00	SWITCH, PUSH (1 KEY)
S902	1-554-496-00	SWITCH, LEAF
S903	1-554-495-00	SWITCH, LEAF
SP901	1-503-249-00	SPEAKER
SP902	1-503-249-00	SPEAKER
T1	1-404-399-00	TRANSFORMER, DISCRIMINATOR
T2	1-447-606-00	TRANSFORMER, DC-DC CONVERTER
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR
T401	1-405-685-00	COIL, MW OSCILLATOR
T402	1-404-100-00	COIL, IFT
T403	1-404-341-00	TRANSFORMER, IF

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Sony Corporation

English
83I0488-1
Printed in Japan

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